NATIVE AMERICAN CRAFTS AND SKILLS

SECOND EDITION

A FULLY ILLUSTRATED GUIDE TO WILDERNESS LIVING AND SURVIVAL

bow guard

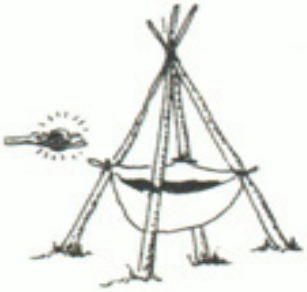
bead designs

moccasin

tipi construction

parfleche

saddle



paunch cooking

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Indian potato

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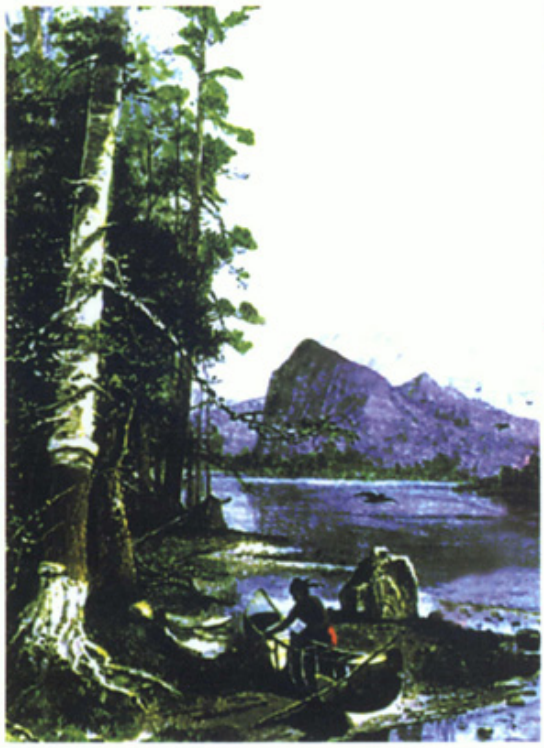

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NATIVE AMERICAN
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A Fully Illustrated Guide To Wilderness Living and Survival Second Edition

David Montgomery

THE LYONS PRESS
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The priceless works of art on the front and back of this book belong to George “Two Hawk” Knowlden, a good friend of mine and an expert in the crafts and history of the Crow tribe.

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Various Indian Tribes

Chapter 1

Shelters

The Indians were a resourceful and ingenious people in the types of dwellings they chose to build and live in.

The Plains Indians developed a structure that was portable, warm in the winter, and cool in the summer. It could withstand the winds of the plains and could be packed on a travois with a moment's notice. The buffalo was the major raw material for the cover and dew cloth although elk and other hides were used. Lodge pole pine was generally used for the framework.

Anywhere from 10 to 20 hides were sewn together with sinew by tribe members who had the specific skills for tipi construction. Each tribe had their specific style but the tipis were all very similar. Crow Indians used a four-pole lodge as compared to the Cheyenne's three-pole lodge. The four-pole had shorter smoke flaps and a different cut in the base of the tipi. When white men introduced canvas, the tribes were quick to realize that this material was lighter in weight and much easier than buffalo hides to sew together.

Today, there is still no substitute for this first portable home. You can throw your 17 poles on top of your 250 or so horses (under the hood), pack the cover, dew cloth, pins, etc., inside and take off for high adventure with a very durable lightweight home.

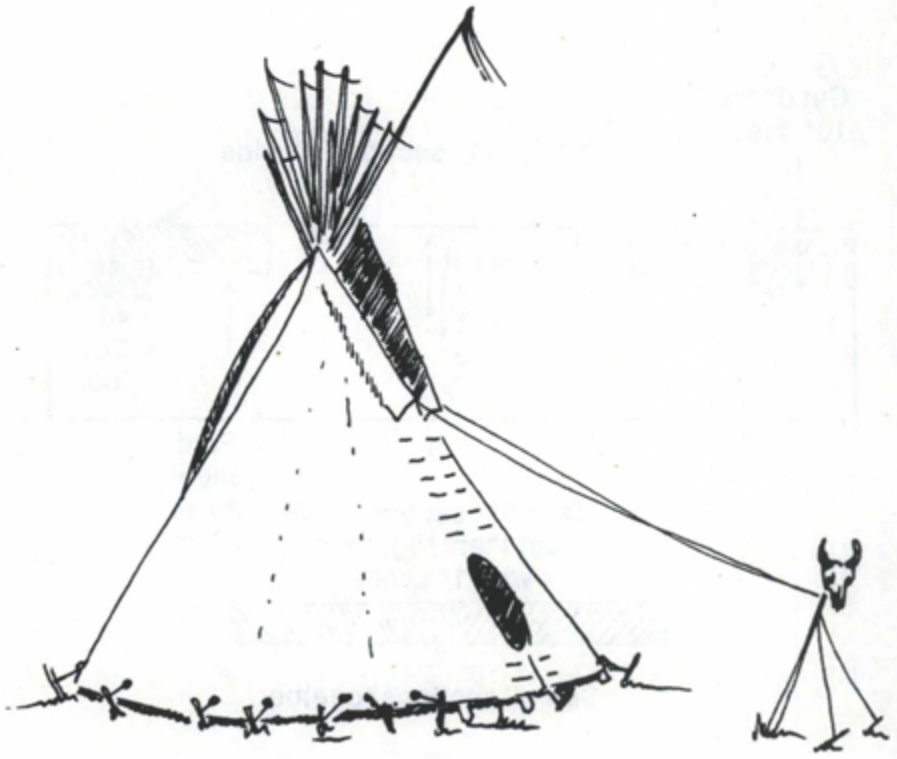
The eastern Indians used earthen lodges and wigwams. The earthen lodges were constructed to maintain an even temperature and to house more than one family and sometimes even horses. They were dark inside with only the fire providing light. In the West, the early tribes of the Mogollon, Fremont, and Maidu lived in pit houses supported by a center pole with poles around the sides which were covered with thatch, mud and sod. The wigwam was actually used in the North and upper West Coast as well as in the East and was built in a variety of shapes. Some were built with saplings then covered with birch bark. This was the best shape for a wigwam. Those

that allowed for most use of space and retaining heat were the round and oval-shaped wigwams.

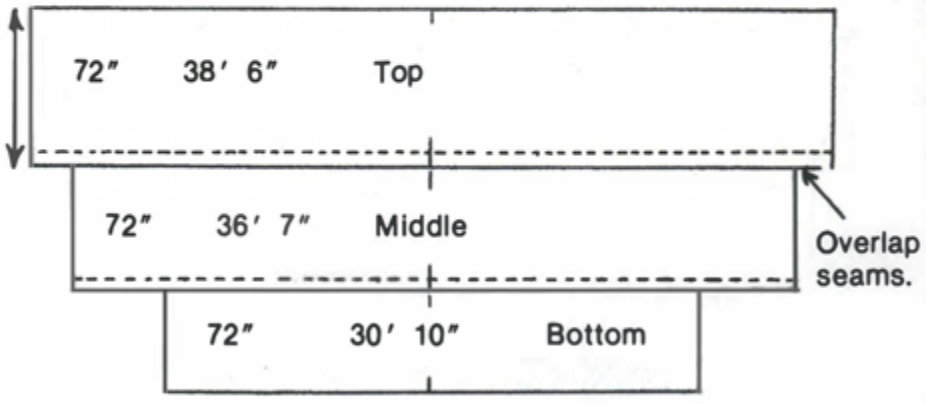
The western Pueblos were constructed of stone, adobe and wooden beams. Sometimes three and four levels were built on top of each other. These were nestled in large caverns in the cliff sides such as Arizona's Canyon de Chelly or Colorado's Mesa Verde. They also were constructed on the flat ground, as can be seen at Pueblo Bonito in New Mexico, or on a high mesa as was old Oribi in Arizona. Taos, New Mexico, and the pueblos of the Hopi such as Walpi, still house families whose ancestors lived there hundreds of years before.

Famine, wars, and disease caused many tribes to perish or to be dislodged from their natural homes and forced to live in a world that was—and is—in too much of a hurry to modernize. The shelters discussed in this section are only a few of the types that existed, but may be the ones which best suit your needs.

Tipi Construction



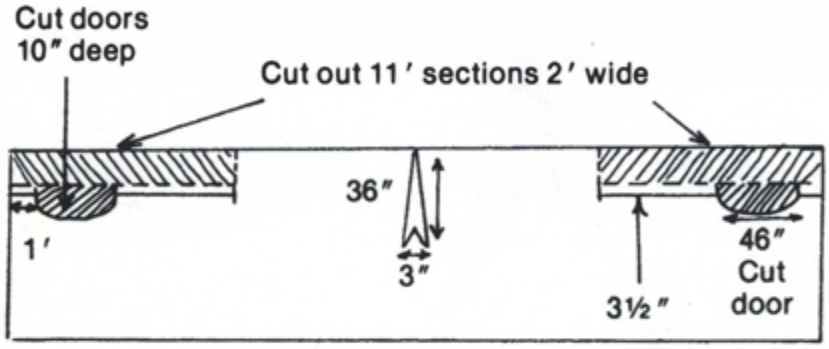
Mark the middle.



10 oz. Duck Canvas

Tipi Construction
(continued)

Top Strip

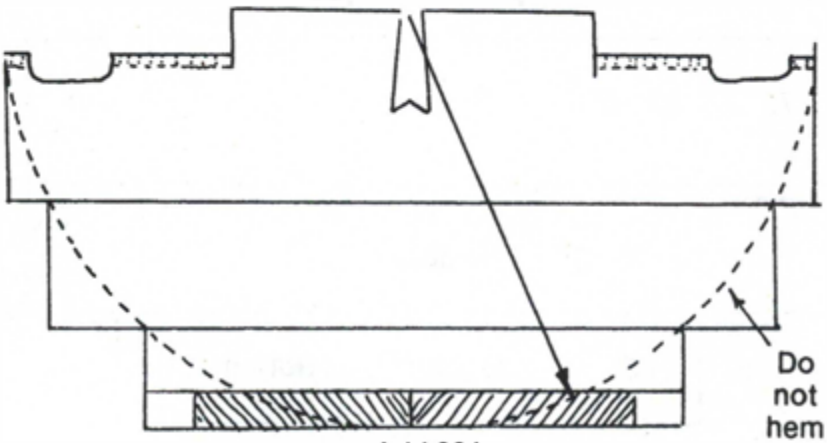


Fold under make seam

Take 11′ sections and put them together with 1″ seam.

Sew all sections together.

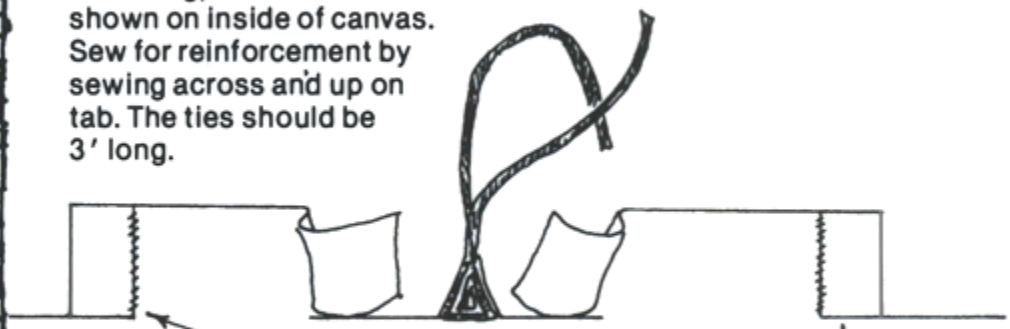
Lay out the canvas on a flat surface, such as a large driveway or use a gym floor, take a heavy cord that doesn't stretch much, have one person hold it on end of flaps while the other person marks it with an attached pencil.



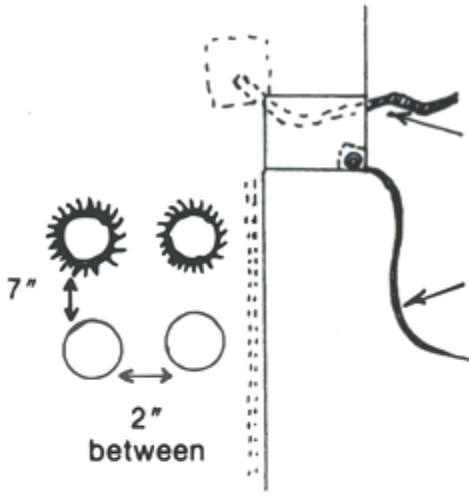
Add 22′ section to bottom

Tipi Construction
(continued)

Use two nylon twill tapes 3½ ′ long; fold them as shown on inside of canvas. Sew for reinforcement by sewing across and up on tab. The ties should be 3 ′ long.



Add 8″ sections to each side. This allows the water to drain down below flap opening.



Sew two ties (one across from the other) at inside corner on the bottom of the smoke flap—1 ′ in length.

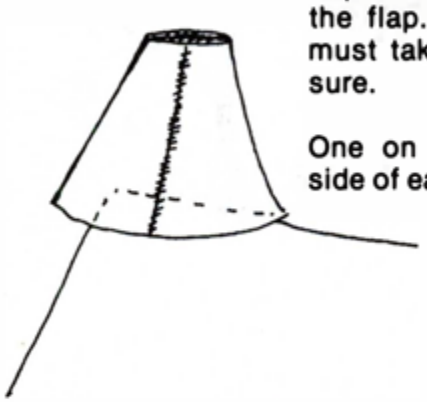
Add 15 ′ of cord to end of each smoke flap.

Make two rows of button holes ½ ″ diameter, 9 holes down with 7″ between the up and down hole. Add two below door. Reinforce hole with stitching.
Repeat on the opposite side, making holes 1½ ″ apart.

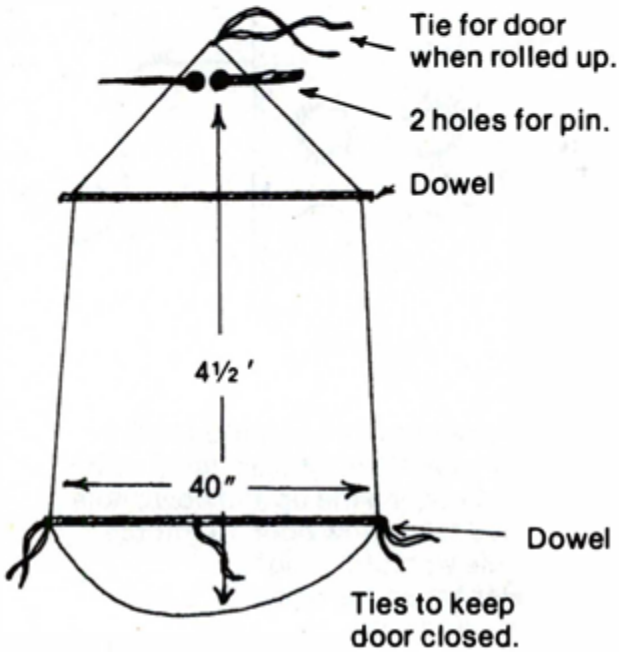
Smoke Flap Pole Pocket

Use an 8″ section by 5½″ of canvas. Taper to top at 3″, fold over and double stitch. Sew cup so the pocket is on the outside of the top flap. Reinforce sewing to the flap. These pockets must take a lot of pressure.

One on the upper outside of each smoke flap.

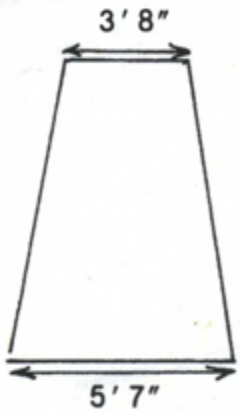


Door Flap

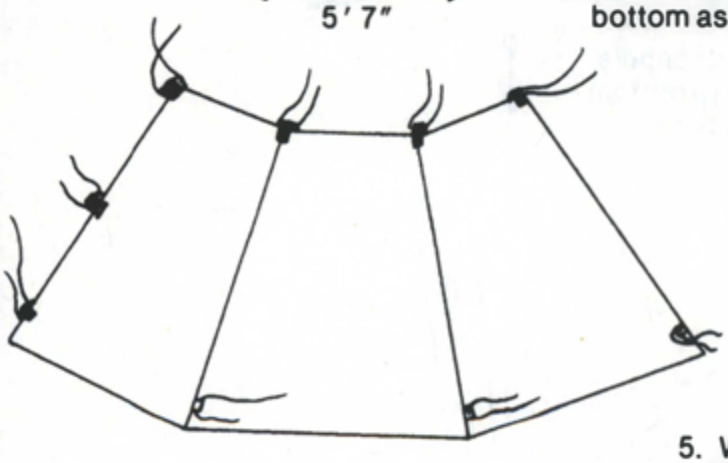


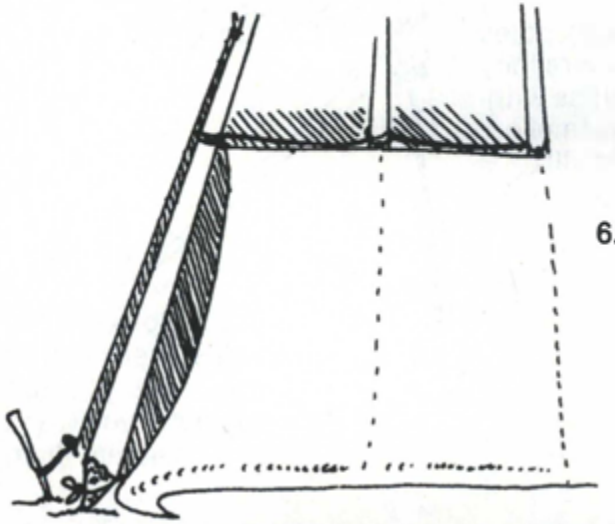
Dew Cloth Liner

Your tipi will not function properly without this liner!



1. The liner will go all the way around the inside of your tipi.
2. Use 72″ unbleached muslin.
3. Cut 10 panels and sew together in 3 sections prior to putting them all together. Then sew 3 sections together.
4. Sew 6″-ties to top and bottom as shown.

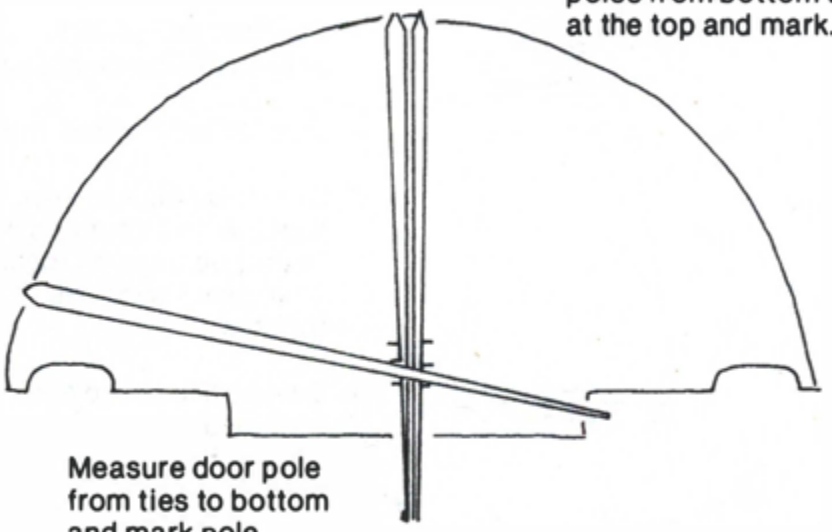




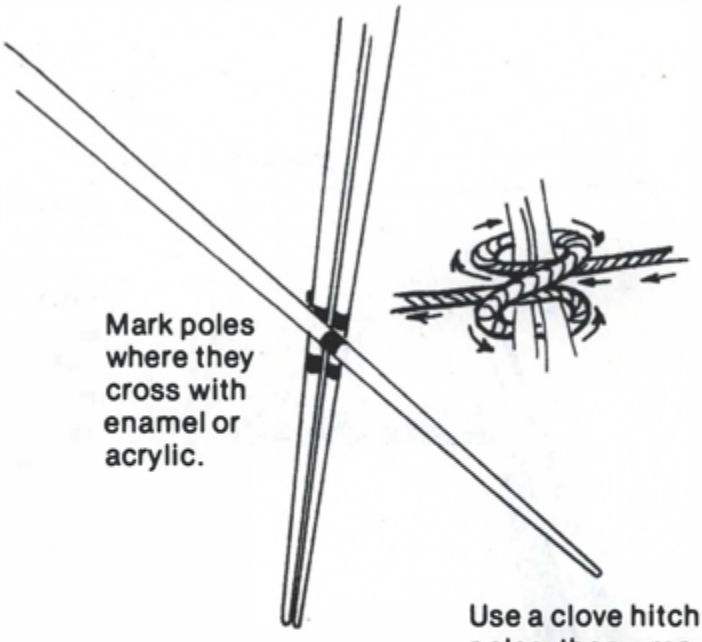
5. When the tipi is set up, run two thin ropes around the poles. One for the top ties of the liner and one for the bottom ties. Do not attempt to tie liner to poles.
6. Note in diagram that there is a portion that folds inward on the ground. Small sand-filled cloth tubes can be laid on them to block drafts.

Setting Up the Tipi

Measure north and south poles from bottom to ties at the top and mark.



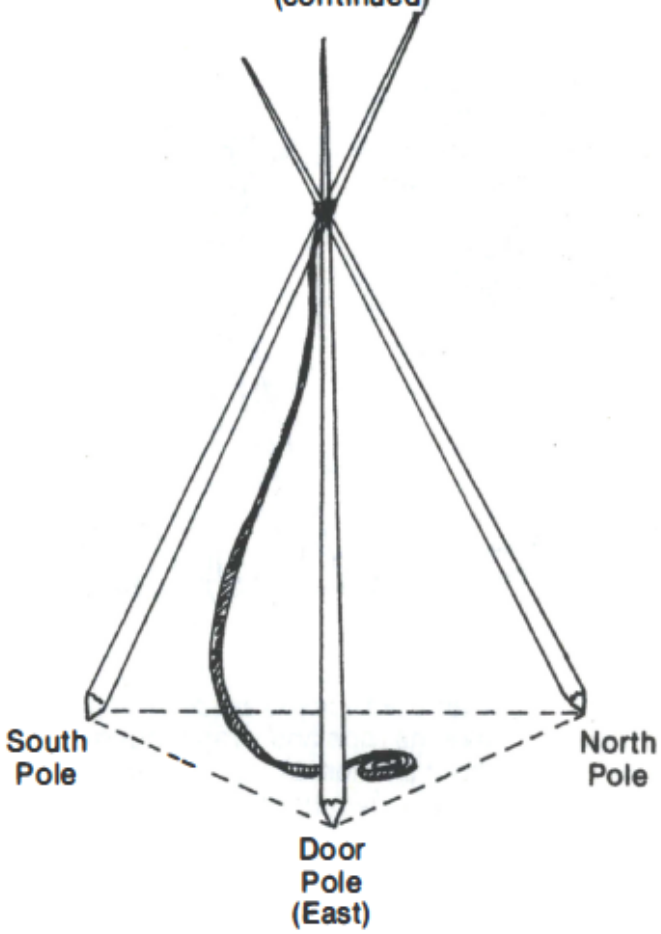
Measure door pole from ties to bottom and mark pole.



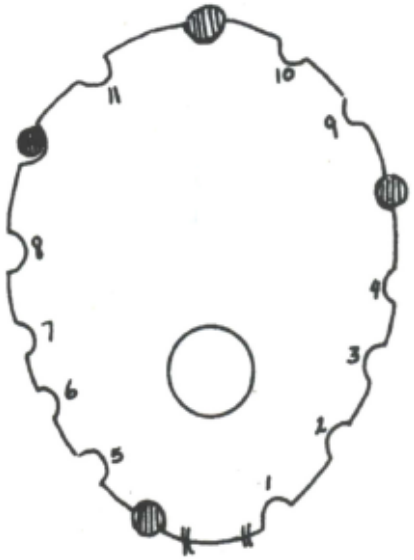
Mark poles where they cross with enamel or acrylic.

Use a clove hitch to tie poles, then wrap and tie once. If you tie them too tight, you won't be able to adjust them later.

Setting Up the Tipi
(continued)



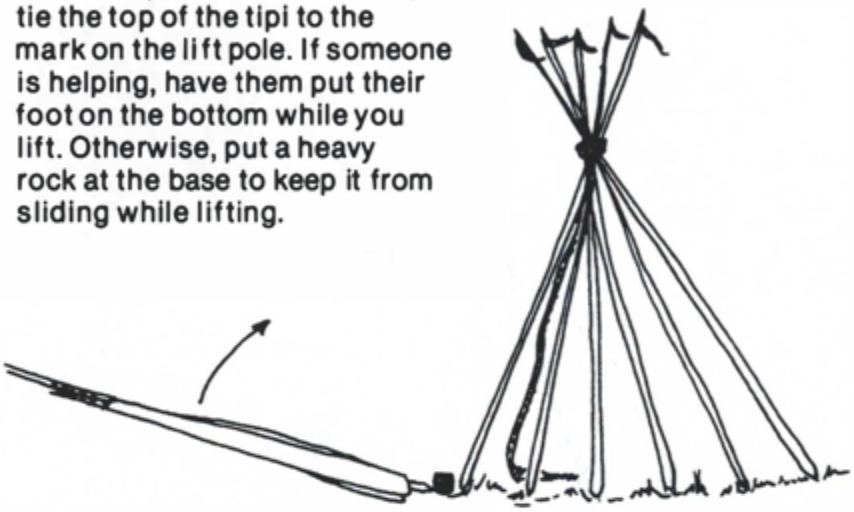
The easiest way to pitch your poles is to have a ground cover with notches cut out for the poles. This saves considerable time in adjusting them.



Set the poles according to the numbers.

Setting Up the Tipi
(continued)

Once the poles are tied down, tie the top of the tipi to the mark on the lift pole. If someone is helping, have them put their foot on the bottom while you lift. Otherwise, put a heavy rock at the base to keep it from sliding while lifting.

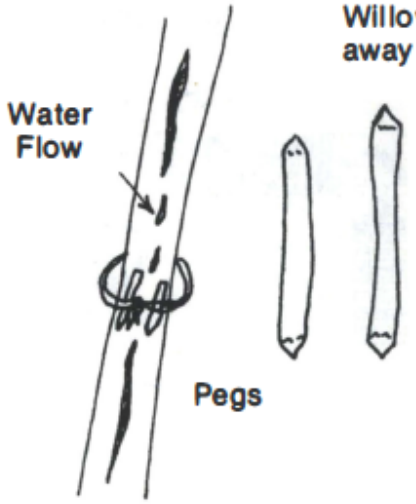


After the 14 poles are pitched, take the rope and wrap around about 3 times, bring through and tie down tightly.

Cross stakes for tying tipi down.

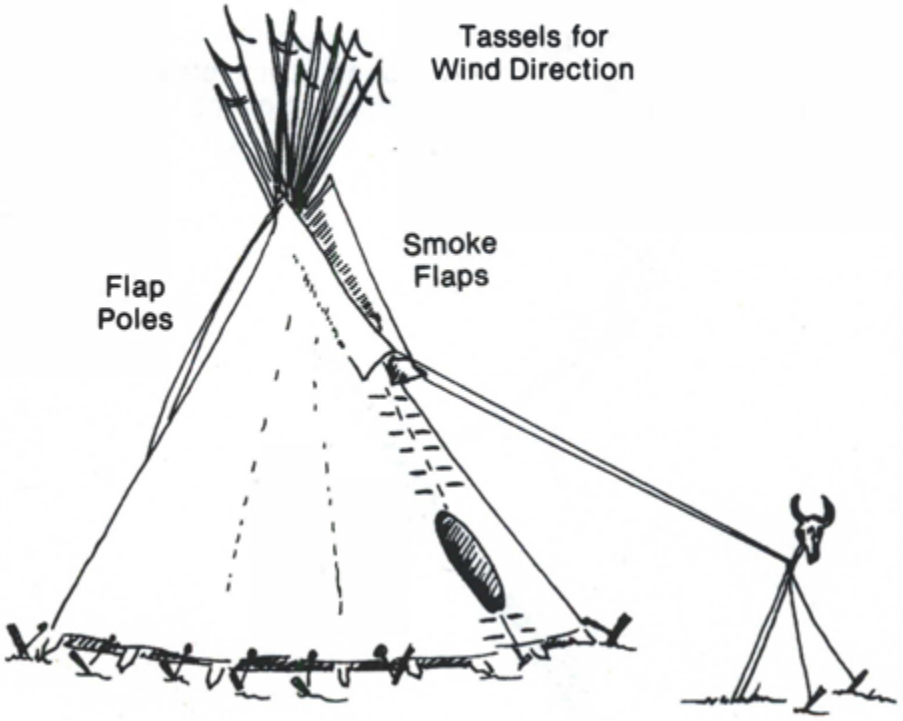
Setting Up the Tipi
(continued)

For the ties on the cover, insert a round rock and tie nylon cord around leaving plenty for twisting rope and tying down on the stake.

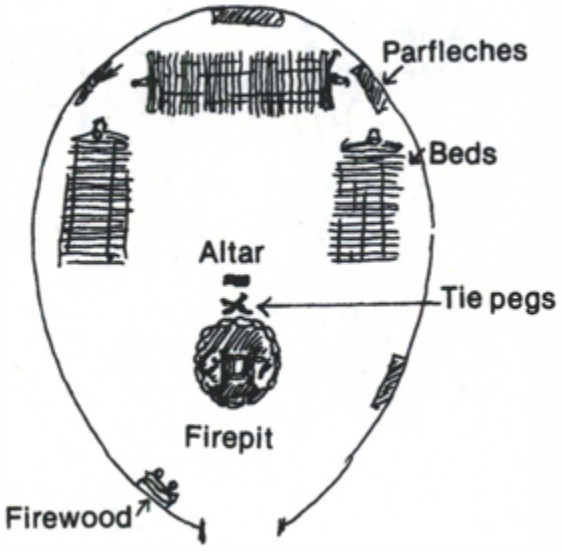


Willow pegs to pull knot away from pole when it rains. This will allow the water to drain off at the bottom instead of where the rope stops the flow.

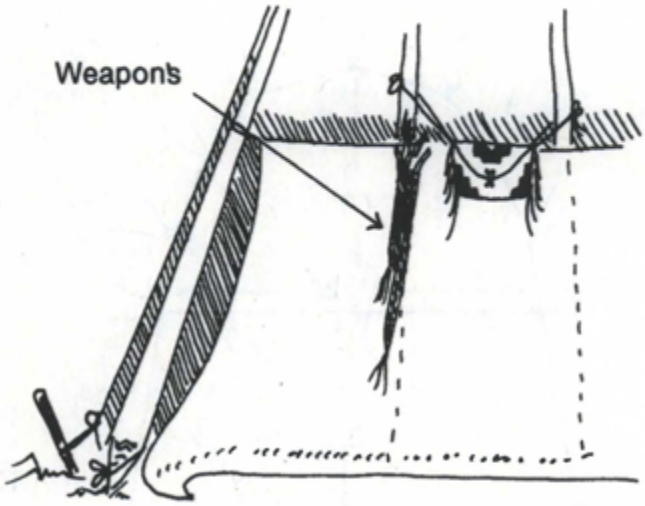
Setting Up the Tipi
(continued)



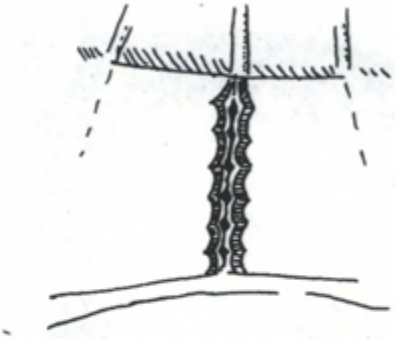
The tipi should have more slant to the front than the back. Pitch with door to the east in most instances.



Setting Up the Tipi
(continued)



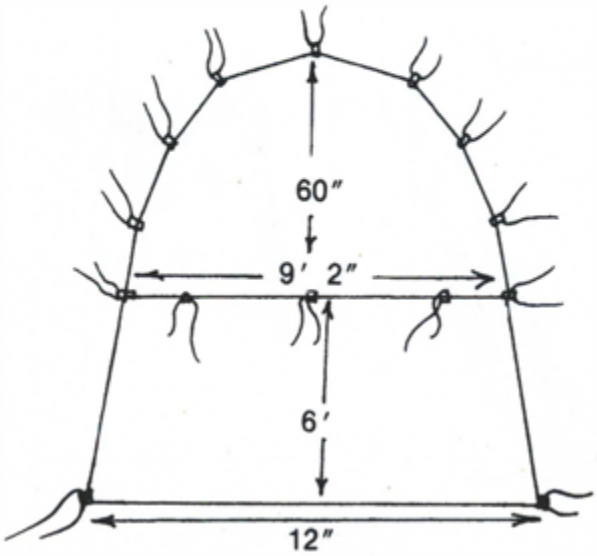
Parfleches can be
hung between poles.



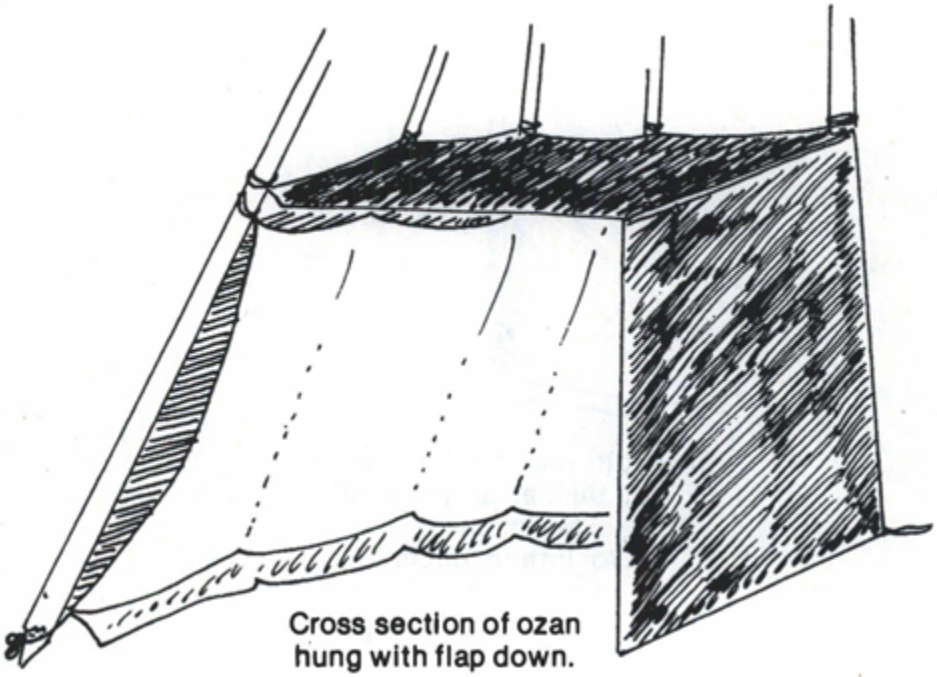
Dewcloth seams can be painted
with thinned acrylic paint
(water base)
for interior decor.

Ozan

The ozan acts as an inner roof and will help retain heat, plus give you some privacy when wanted.

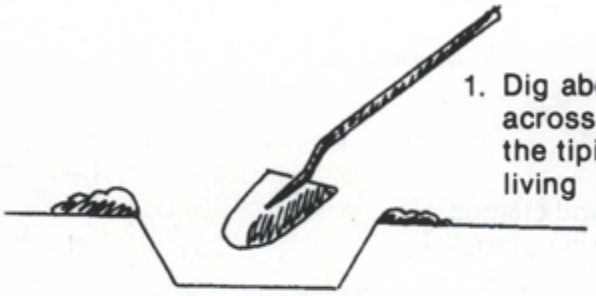


Tie for bottom.



Cross section of ozan hung with flap down.

Tipi Fire Pit

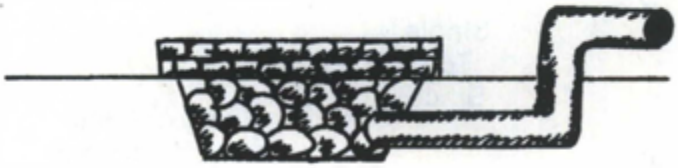


1. Dig about a 12″ deep pit and 2′ across, slightly off center towards the tipi door, this will leave more living room towards the back.

2. Line pit with flat rocks if possible and stack two high around edge. Make sure rocks are stable enough to support weight.

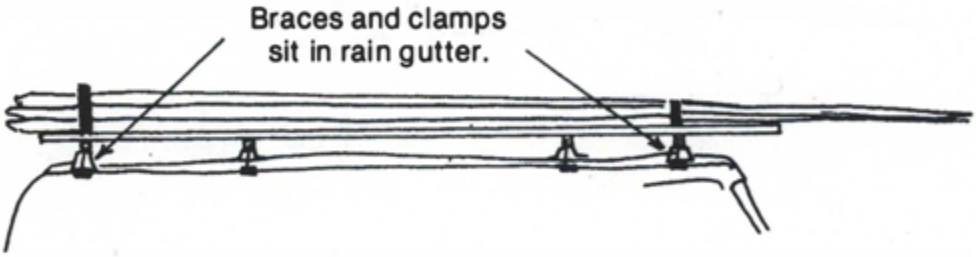
3. Top View.
   Rocks will retain some heat during the night.

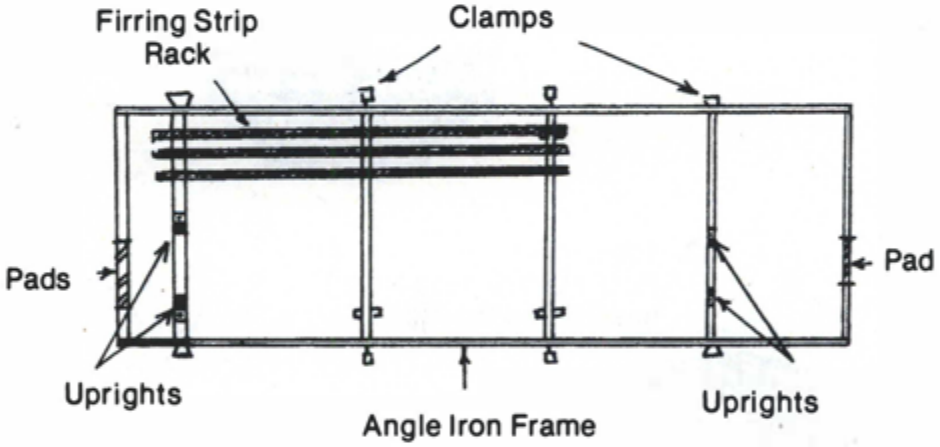
4. If you plan to do some winter camping where snow is possible rig up a 4″ stove pipe to run under the floor and outside as pictured.

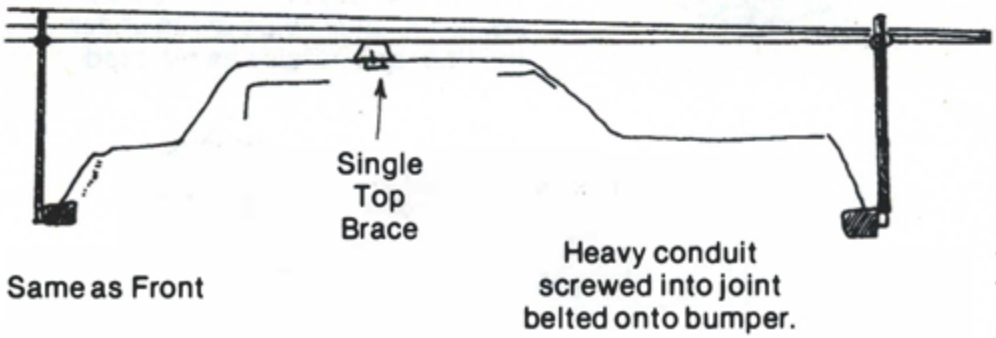


TIpI Pole Racks

Rack for Van



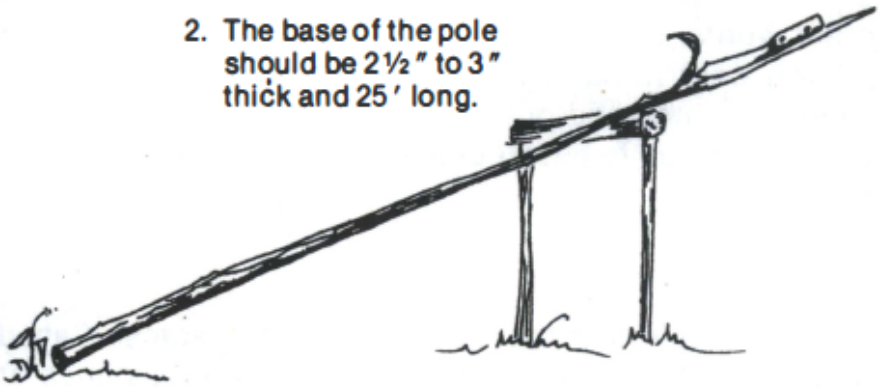




Stripping Poles

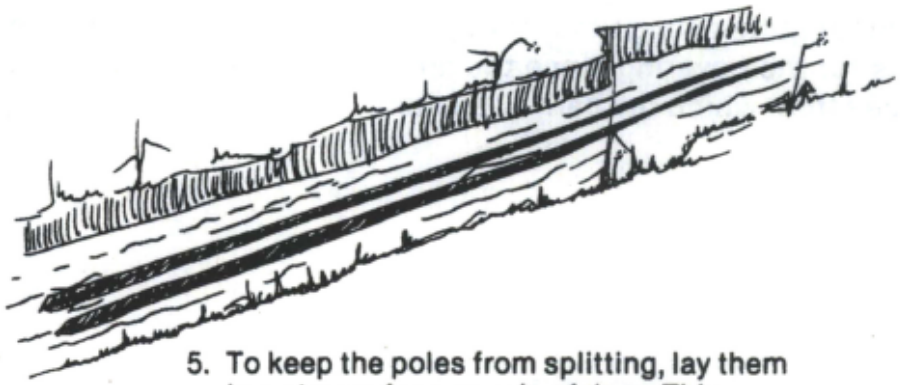
1. The best type of tipi pole is lodge pole pine.

2. The base of the pole should be 2½" to 3" thick and 25' long.



3. As soon as the poles are cut, chop off branches.

4. Set poles as in diagram, take a good sharp knife, start at top, slip blade under the bark and lift. Peel long strips of bark off.



5. To keep the poles from splitting, lay them in a stream for a couple of days. This takes some of the pitch out of the wood.

6. To dry poles, pitch them as if you're going to make your tipi. Tie loose enough to turn the poles about 2 times a day to dry evenly.

Painting the Tipi

Most lodges were not painted and, when they were, they were generally done by a specialist with the help of others. The symbols that were painted on the covers were to represent great feats, dreams, and protection as well as designating the family that owned the lodge. Having associated with various Indians, I have found that what was painted on a specific tipi was for that owner and no one else. In other words, no two tipis were painted the same. I would suggest, if you want to paint your tipi, that you honor those who have had theirs painted and published in books. Don’t copy them. Create your own design to best represent what you feel needs to be portrayed.

The Wigwam

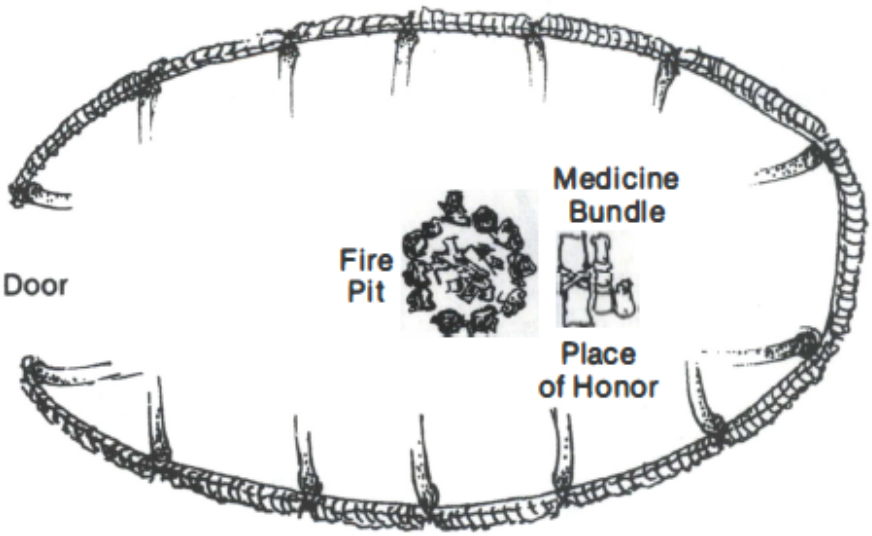
In the northern parts of the United States and across Canada, the Algonkian built their dome-shaped wigwam with saplings and covered birch bark, rushes, woven mats, or other forms of covering.

Saplings were bent and lashed together to form a sturdy framework. The ends were stuck in the ground for stability. Bark was cut in sections large enough to be sewn across each cross-brace on the top with enough overhang to overlap the top portion of bark sewn on below. The only light sources were a door on one end and a smoke hole in the top. The fire was built in the middle of the wigwam with rushes or grasses for floor covering. Beds were elevated off the damp ground.

These wigwams were very stable dwellings. They could be lived in for quite a long time. Today it would be more feasible to use canvas for the covering since the amount of bark to be used would kill trees from which the bark was taken.

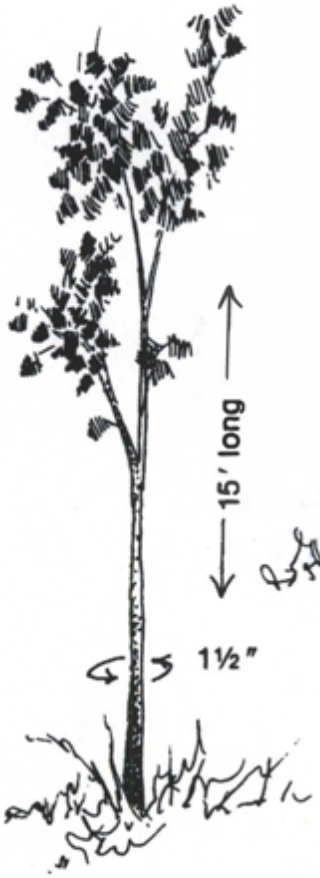
Wigwam Construction

Entrance



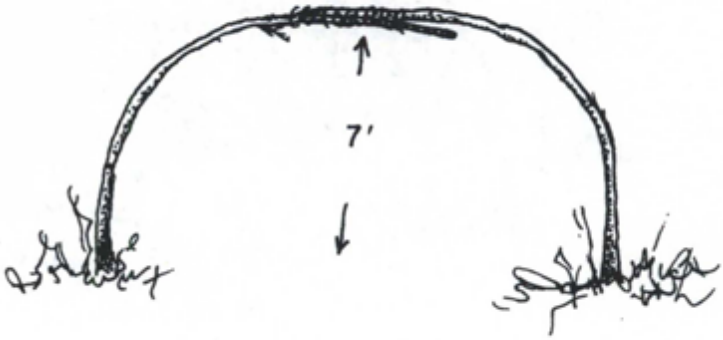
Floor Plan

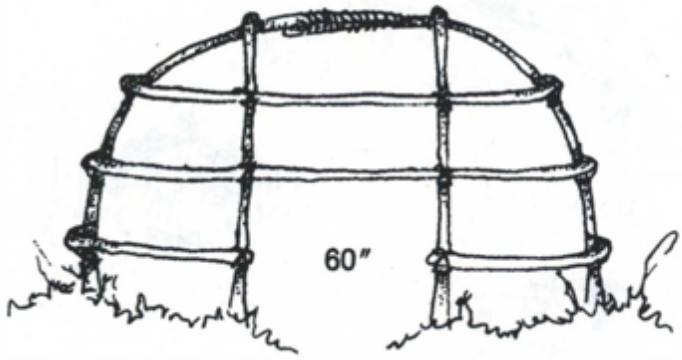
Wigwam Construction
(continued)



16
Saplings

Lash with basewood bark
or heavy cord

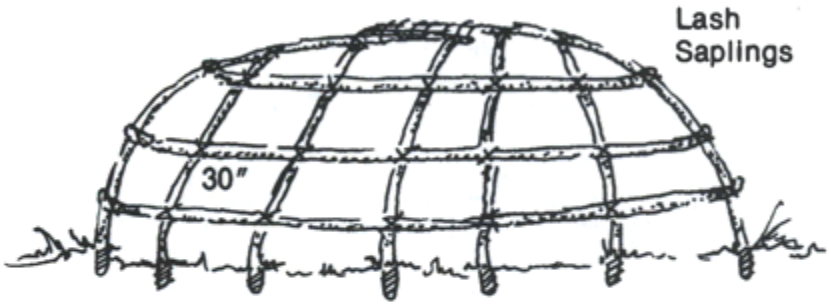


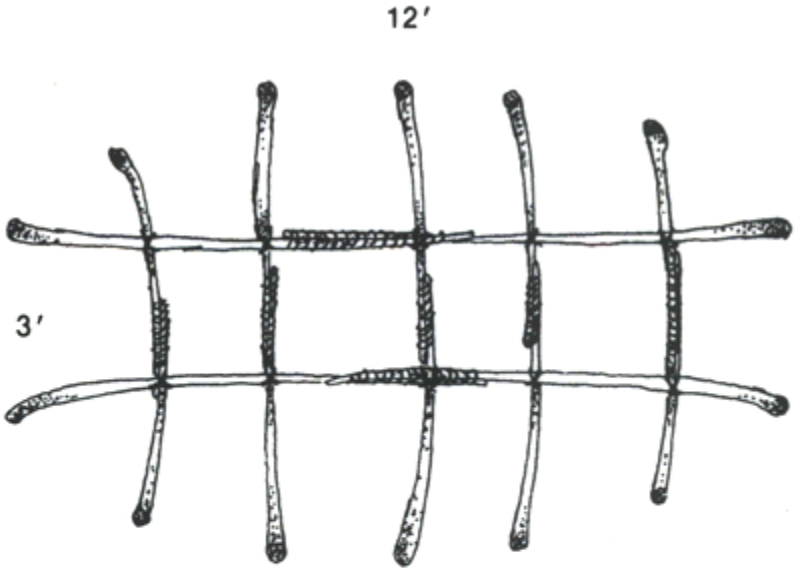


Door

Front View

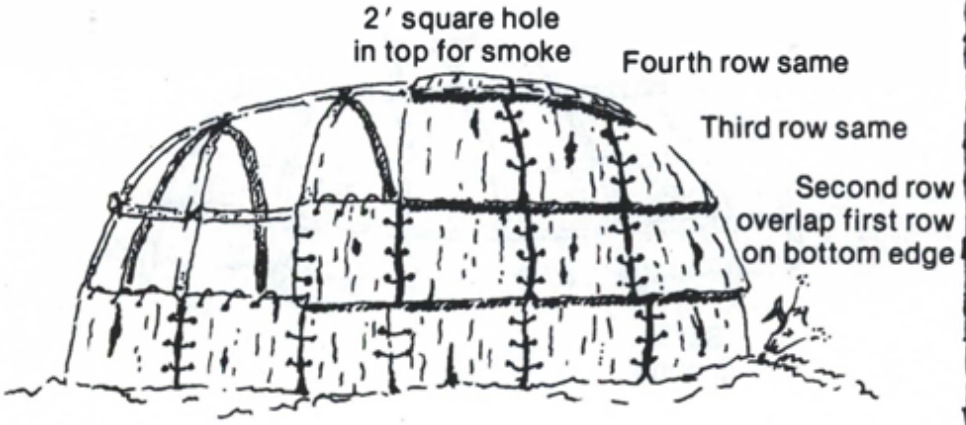
Wigwam Construction
(continued)



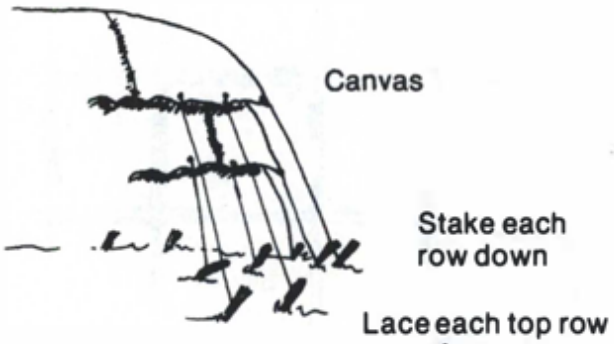


Top View
Framework

Wigwam Construction
(continued)



First row of bark, lace to
uprights and crossbars

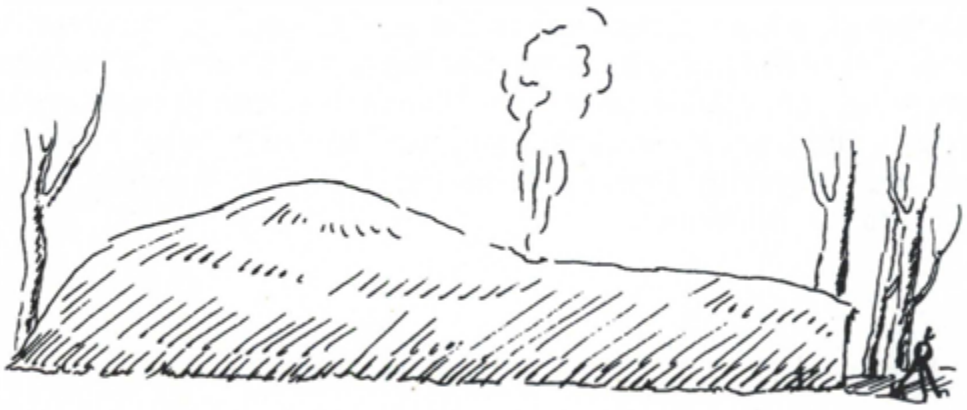


Alternate for Bark

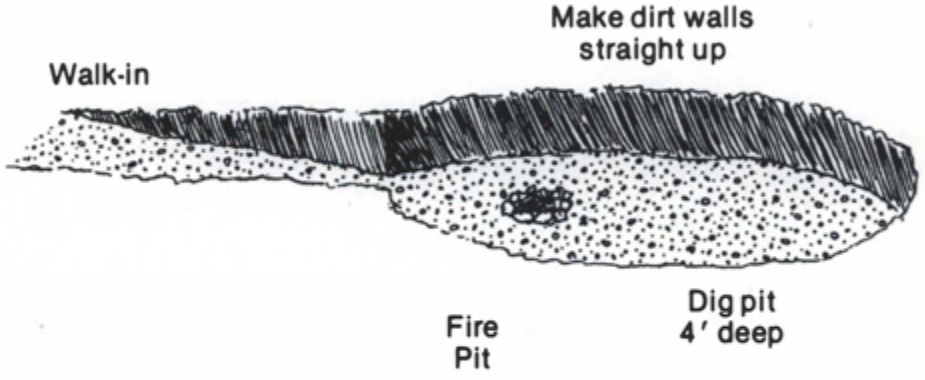
The Pit Dwelling

This dwelling was used by such tribes as the Patwin, Mandan, Mogollon, Fremont, and Eskimo although the dwellings varied in size and shape. Some were large enough to house the owner's horses. This is a dwelling that can be lived in year round. It is quite comfortable in either winter or summer. Cedar poles are sometimes available at lumber companies in the western states, but you need to make sure the poles are forked at the top and broad at the base. The center pole should be at least 12 inches across. If you have the property and want a permanent structure to live in or for a place to have club meetings that would be most unique, this may be the structure you will want.

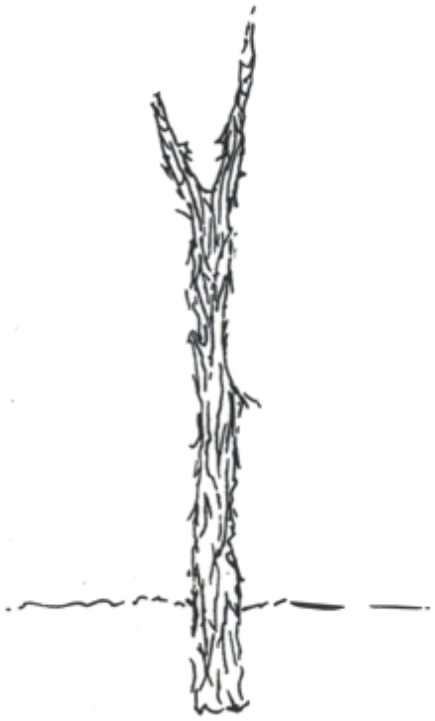
Pit House Construction



Finished Pit House



Pit House Construction
(continued)

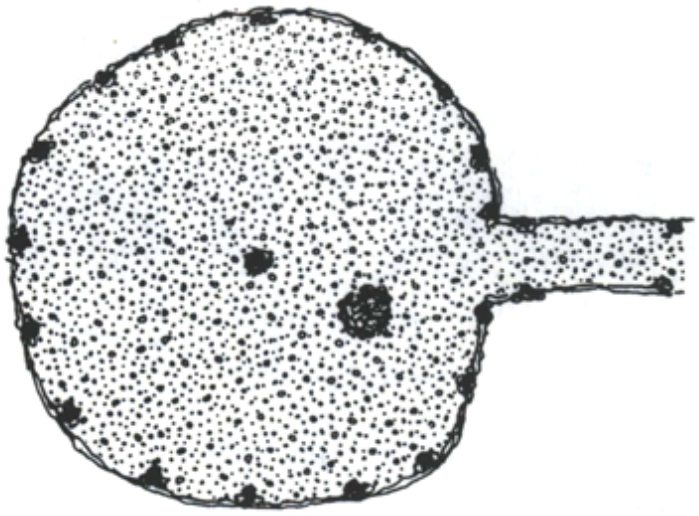


Cedar post must have fork in top

Poles

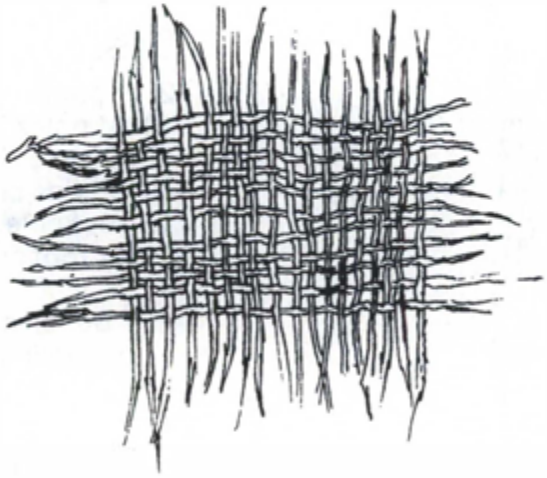
2 7′ poles
19 9′ poles
1 12′ pole
19 5′ side brace poles
19 roof poles
2 10′ roof door poles

Bundles of saplings

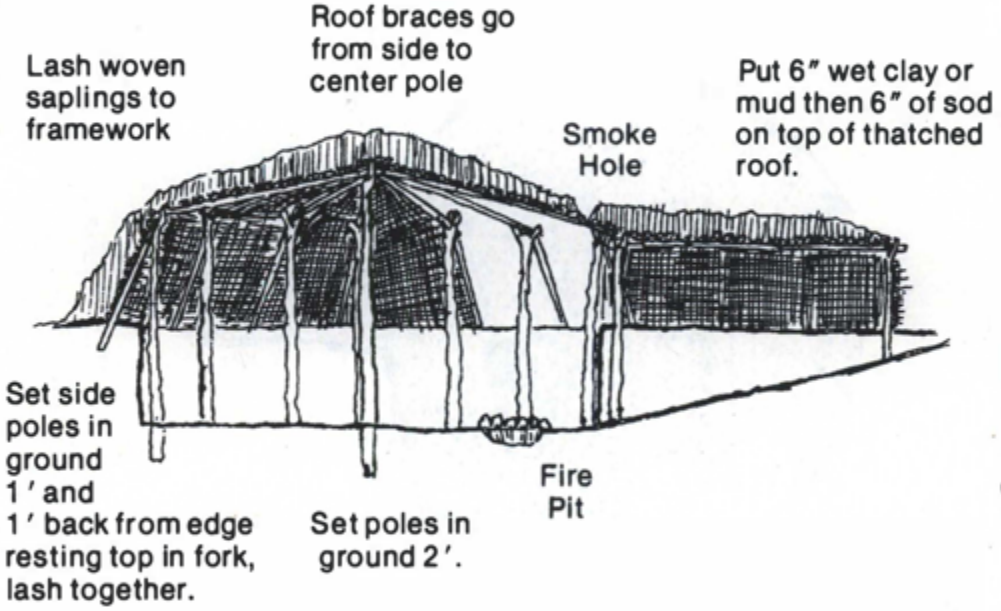


Floor Plan

Pit House Construction
(continued)



Saplings
Woven


Roof braces go from side to center pole
Lash woven saplings to framework
Smoke Hole
Put 6″ wet clay or mud then 6″ of sod on top of thatched roof.
Set side poles in ground 1′ and 1′ back from edge resting top in fork, lash together.
Set poles in ground 2′.
Fire Pit

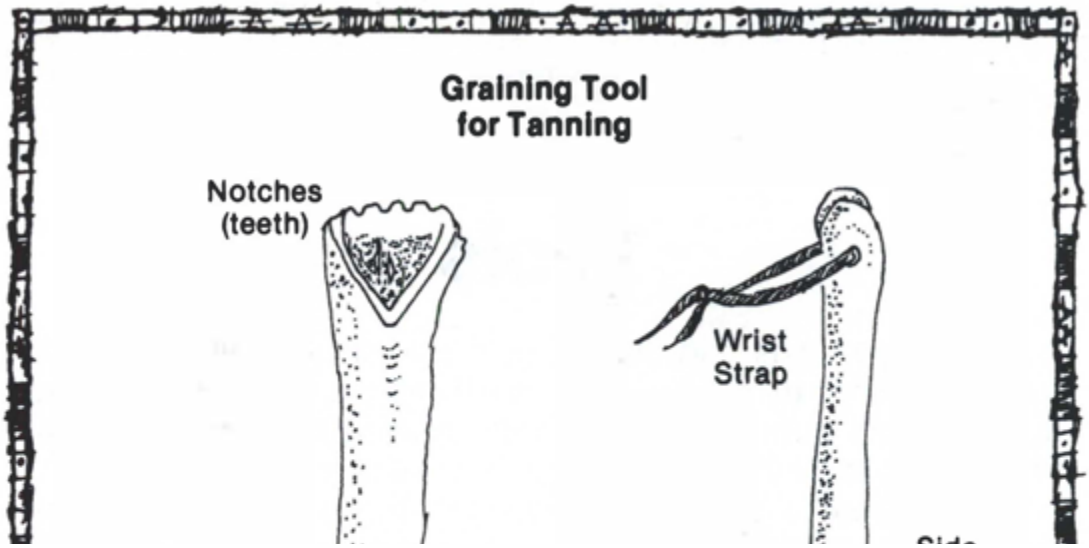
Chapter 2

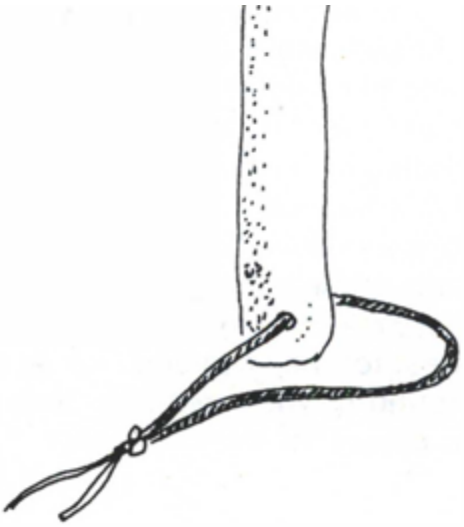
Tools

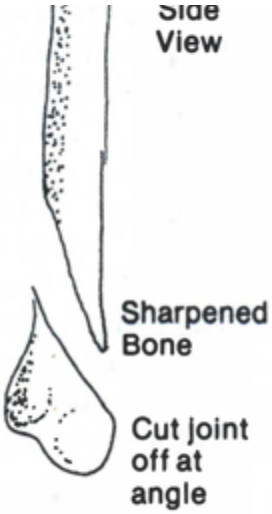
The type, style and use of tools are many. Unlike weapons, tools were used to maintain everyday living such as digging, grinding, pounding, cutting, scraping, and punching holes rather than as implements to take a life of either man or beast.

Tools were made of stone so hard that they were used to peck, grind, sharpen, and polish other stone and other materials such as wood, antler, horn, and bone. Drill heads were sometimes made of basalt while scrapers might be made of obsidian which was sharper than surgical scalpels. Wood was used for bow-drill fires as well as drills and root diggers, and as handles for many other tools. Antler and bone were turned into needles, pins, weaving tools, awls, fish hooks, musical instruments, spoons and knife handles. Steel, when it was introduced, was used for many of these items.

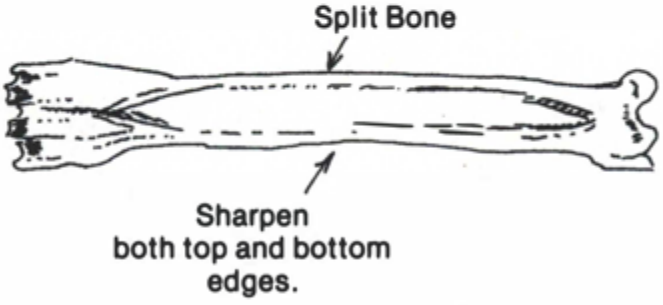
The tools here are of such a nature as to allow you to make your choice of which would serve you best for the occasion. Stone, bone, wood, and steel can usually be found in your area and, with little trouble, some nice tools can be constructed.







Beaming Tool



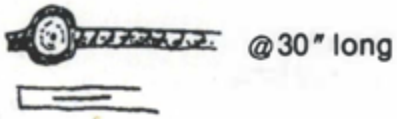
Firemaking

For bow drill method you will need:

1. Wood—cottonwood, sagebrush or white elm.

2. Green, curved stick for the bow with a fork on one end.

3. Leather cord, split one end as shown to insert plug.

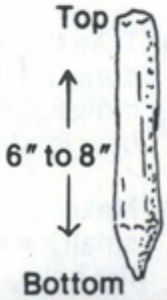


4. Handle for spindle to fit in the palm of your hand made of stone or hardwood.

5. Shredded bark of cottonwood, birch, cedar or sage for tinder.

6. Bark slab to catch the spark.

7. Spindle of yucca, cottonwood or other mentioned wood.



Firemaking
(continued)

8. Board of some wood.
   •Cut a dip into board for spindle.

   •Cut slot to center of dip and slant bottom out on underside to leave room for spark.

9. Tie cord to notched end of bow, slip in plug on other end and twist the cord.

Bottom

10. Slip plug end into the forked end of bow.

11. Put board with slot over the bark slab. Set left foot on the board to the left of the hole.

12. Insert spindle bottom between cord and bow, then twist it so the cord goes around the spindle once.

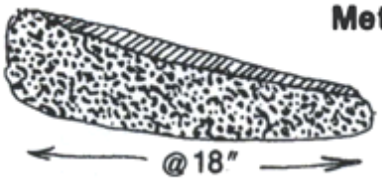
13. Brace left arm around knee with spindle handle in left hand. Insert spindle in handle and board.

14. With the right hand draw the bow back and forth gradually increasing pressure with left hand. Smoke will appear. Keep pumping with right hand until smoke appears at bottom of the board.

15. Take the coal and gently dump it into the tinder, blow lightly until the bark ignites.

16. Make sure you have enough small kindling to keep the fire going.

Metate



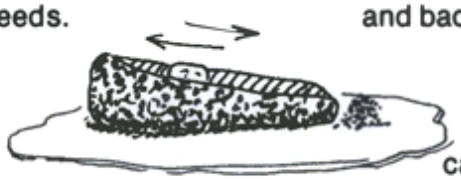
Side

Top

Mano

Pound hard corn kernels or seeds.

Grind with a forward and back motion.



Skin to catch the flour.

Grinding Stone

Best made of course lava rock with a fine porous surface. Whatever type of stone used, be certain it will not crumble or you will be eating it.

Horn Quill Smoother

Drill

3. Insert bit and bind with sinew.

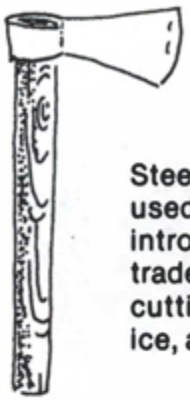
Handle held between palms and spun back and forth.

1. Handle

Cut slot

2. Stone Drill Bit

Front Side



Steel Hawk

Steel hawkheads were used by the Indians upon introduction by the white traders. It is useful for cutting small branches, ice, and bones.

Handle

Drill hole in wood slightly smaller than rod.

Steel or Hardwood Stick

Root Digger

Hide Scraper

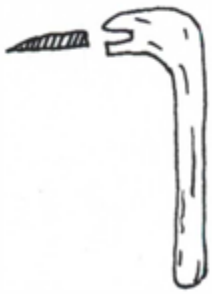
Cut to fit hand

Elk Antler or Wood

Steel Blade

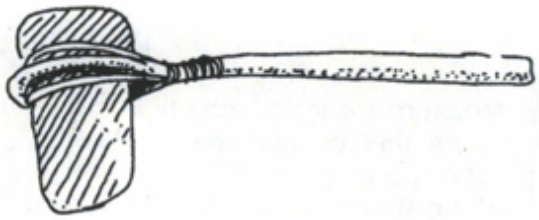
Fasten with wet rawhide

Cut slot—insert blade



Finished Scraper

Hammer Stone

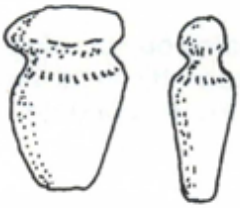


Pecking stone to make notch around stone for either finger grip or handle.

Grind on sandstone to refine shape.

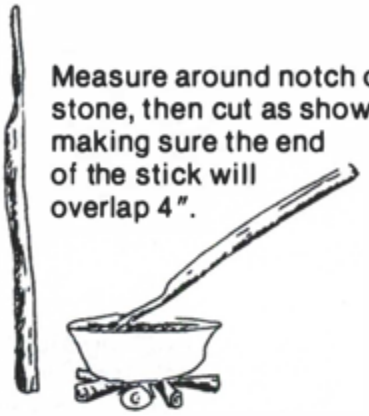
Polish with leather pulling back and forth.

Front



Side

Hammer Stone
(continued)



Measure around notch of stone, then cut as shown making sure the end of the stick will overlap 4″.

Boil end to make flexible.

Dried Sapling
or
Mountain Mahogany

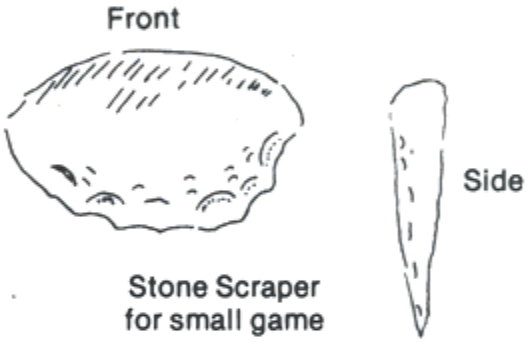
Bend around stone

Wet rawhide strip, wrap around to tie end to handle, loop over stone front and behind handle. Let it dry in the sun.

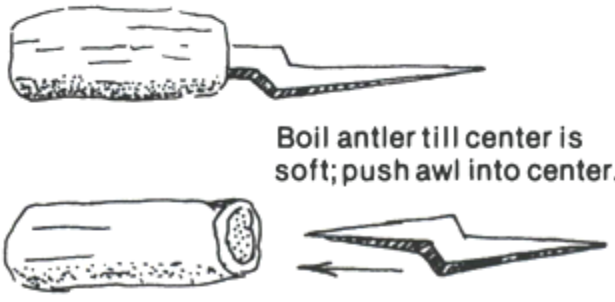
Depending on how big you make your stone, it can be used as an axe or hammer or both.

Fat Scraper

Stone Scraper



Metal Awl



Bone Awl

Chapter 3

Weapons

The arsenal of the Indian was mainly limited to stone, bone, and wooden implements before the coming of the white man. When explorers, traders, and trappers appeared the Indians made use of factory-made items when they could. Even after the Indians obtained the gun and the metal hawk-head, they still used their traditional weapons of bow and arrow, lance and shield.

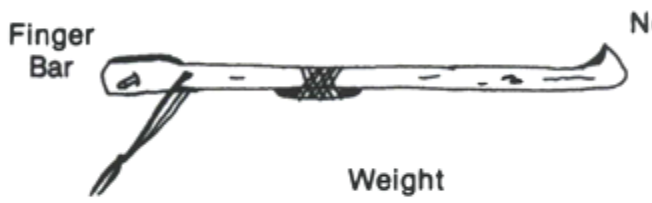
Knives made of stone were brittle but they were sharp and easy to make but they virtually left the scene after the introduction of the steel knife. The same thing happened with the stone arrowhead.

Lances were wrapped with such furs as otter, mink, and beaver as well as bird feathers which represented certain meanings and powers to the individual warrior. Some of the meanings are: crow feathers because the crow was the first to find food; owl representing the north star; and swan feathers representing the thunderbird.

Bows were simply decorated, if at all, and made strictly for function as were the arrows. When points were used the heads were loosely attached so that they would come off when pulled out of the victim.

The weapons in this chapter are selected to serve you as a hunting tool or a decorative piece.

Atlatl
(Spear Thrower)



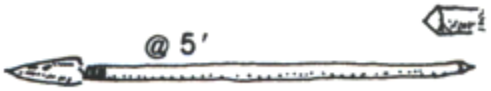
Top View

Wrist Strap

1. Use any type wood. Flatten top. Notch should be 1″ wide.

2. Finger bar or finger loops may be used. Place between thumb and forefinger.

Spear

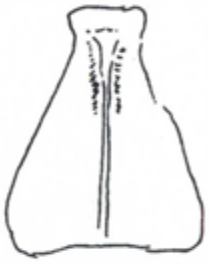


Chisel pointed throwing end

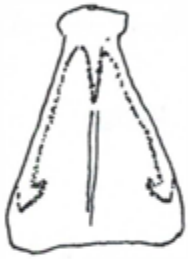
Stone or steel head

4. Cock elbow back, balance spear with other hand, whip forward in direction of target.

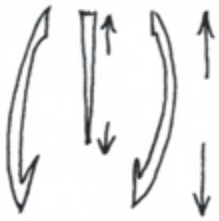
Leister
(Fish Lance)



Deer clavical
or wood



Cut so spear
is one piece



or Three pieces

Put dowels through
spear pieces and shaft

Wrap with sinew
or rawhide

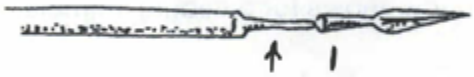
War Lance and Points

Knife Blade

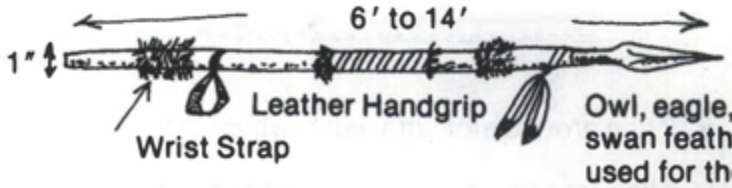
Flint

Mexican Lance Point

1. Knife and stone points are inserted into shaft as hunting lance is, then tied down with wet sinew and then wet rawhide.



2. Glue
3. Drive pi
   when head is seated on shaft.
4. Lance shafts should be cut in the fall when the sap slows to prevent cracking. Grease, smoke, and shape to straighten. Ash, ironwood and oak are good woods.

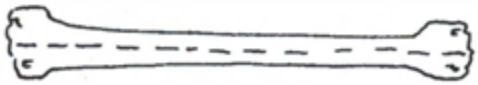


Fur strips wrapped around the shaft for strong and swift power the animal represents.

Owl, eagle, crow or swan feathers were used for their powers as decorations. You must use turkey or other legal feathers.

War Lance and Points
(continued)

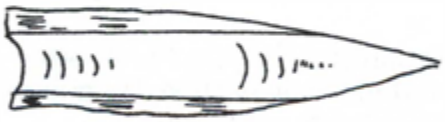
Hunting Lance



1. Split leg bone of deer, elk, or other large bone.

2. Cut out rough shape, scrape out marrow and form lance point.

3. Sharpen flat edge.



4. Hollow allows for bleeding animals.

5. Stone or metal points may be used.

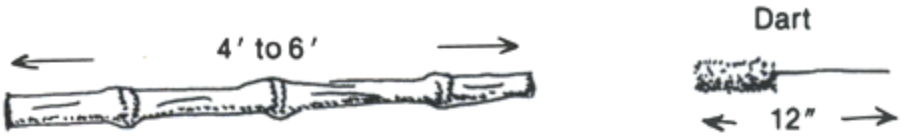
6. Shaft should be about 2″ in diameter, hard, polished wood.

7. Boil pine pitch and while hot insert bottom of point into pitch and quickly insert into shaft slot.

8. Wrap around slot with wet rawhide strip.

Hunting lances were only lightly decorated.

Cherokee Blow Gun



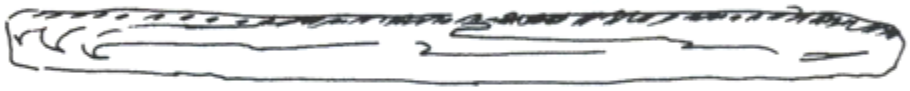
Tube made of cane hollowed out.

Split then clean out and wrap with rawhide.

Bow Making

1. Woods that may be used are Osage orange, ash, juniper, oak, ironwood, and white elm. Cut in winter to prevent cracking.

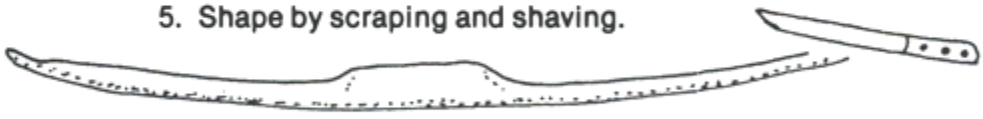
2. Straight and few or no knots.



3. End thickness determined by the size of little finger.

4. Grip size is when fingers touch palm when wrapped around middle.

5. Shape by scraping and shaving.



6. Bows can be various lengths. A good size is about 4″ above your hip.

7. Cross Sections

Plains Bow

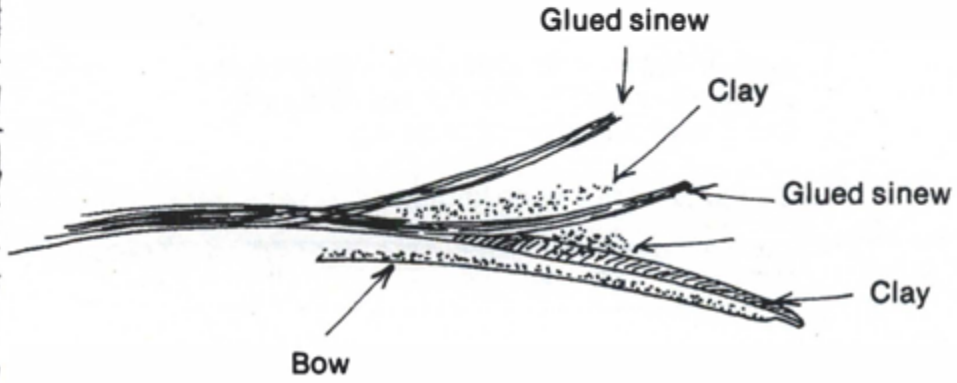
Southwest Bow

[illegible]

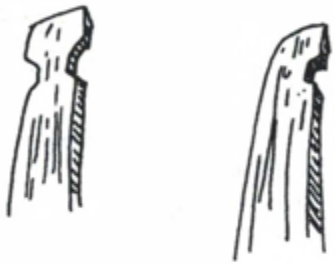
Bow Making
(continued)

8. Once the bow is shaped, it is backed with sinew that has been dried, then pounded. It is glued with hoof and horn glue (LePages glue will work) in strips with layers of fine white clay between. Two layers are sufficient to reinforce the wood. Not all bows were backed.

9. Bows can be oiled, heated and shaped to help flexibility.



Two types of wing tips



10. Notch about 1/8″ in and 1/4″ to 1/2″ down from the tip.

11. Bow can be painted or left plain.

Bow String Making

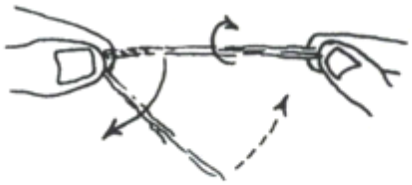
1. Dry sinew from deer, elk or moose (buffalo was used).

2. Pound sinew till it shreds.

3. Peel sections of fiber off the thickness of very thick thread.

4. Twist sections between fingers, repeat. Put two sections together and tie an overhand knot. It should look exactly like the illustration.

5. Take knot between forefinger and thumb of left hand.
   (a) Twist top string with right hand going the direction of the arrow.
   (b) Swing top string down over front of bottom, pull tightly.
   (c) Bottom strand is now on top. Repeat (a) and (b).
   (d) As you hold with your left fingers, work the finished piece back so as to always have the pieces showing as in the illustration.



Bow String Making
(continued)

6. To add another piece
   (a) take a new strand and lay it between top and bottom as shown.
   (b) twist bottom strand with new strand and continue working as in number 5.

7. Don't add two new strands at the same time—always stagger them.

8. Make string twice as long as the bow, fold over and twist together.

9. Cut off little burrs, then beeswax the string.

10. Rawhide may also be used and done in the same manner of twisting.

11. Wrap one end permanently around wing. The other end is made into a half hitch loop to slip over the other end. String must be dampened occasionally when done in a dry climate.

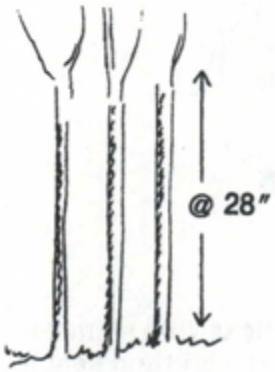
Arrows

The arrow can be made of many types of wood, birch, willow, cane, but it must be straight or you must be able to straighten the shaft. Make sure that the shaft is at least 28″ to start with.

1. Select wood for the shaft.

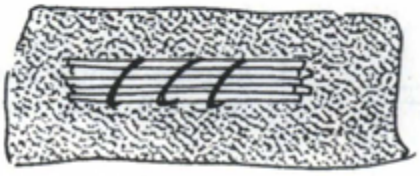
Tip of little finger

Wood



2. Cut shaft from elbow to fingertip plus length of little finger.

3. If wood is willow, cut while sap is flowing and peel off bark, otherwise the bark will have to be shaved off. Wrap 15 or 20 shafts in a skin (you can use cloth) and smoke for 2 or 3 weeks. This was done in the tipi or lodge. You can do it in a smokehouse if you have one.



Loose Bundle

Arrows
(continued)

4. Smoke Bundle

5. Peel and scrape bark off shaft.

6. Grease sticks with animal fat (bacon grease will work) and heat to prepare to straighten.

7. A stick of bone with a hole slightly larger than the shaft is made and while the shaft is still hot it is put in the hole and bent to straighten.

Do a section at a time.

8. Arrow may now be crested (painted) if you want it personalized.

Arrows
(continued)

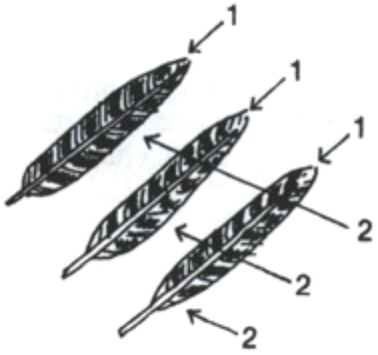
9. Carve a notch on the heavier end to accomodate the bow string. This is called the nock.

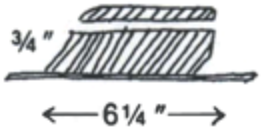
10. Feathers for the fletching are now selected. All large type birds were used. Turkey or goose will work.

11. Split and clean pith out.

12. Use same side of feather for each arrow.
    (1) first arrow
    (2) second arrow

13. Trim so feather is ¾" high on shaft.



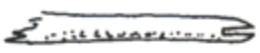


14. Although the Indians in many cases left the middle section unglued, to glue it will help if you wish. Wrap sinew around each end with all three feathers in place.

15. End view with feathers.

16. At the other end of the shaft a slot is cut for the arrow point. Don't do this until the arrow point is made.

17. Insert head and glue. Tie with sinew.



Arrow Points

Arrow points can be made of steel, bone, or stone. Great Lakes tribes used copper as far back as 1500 B.C.

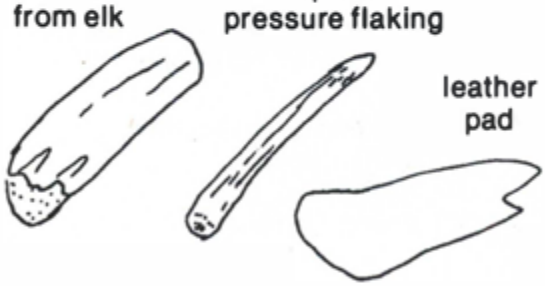
1. Types of stone:
   agate
   flint
   slate
   obsidian

2. Tools:

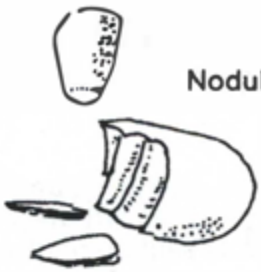
billet from elk

deer antler tip for pressure flaking

leather pad



3. Hammer stone.

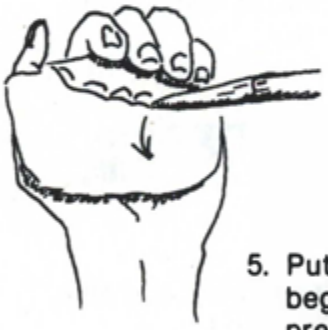


Nodule

Spall

4. Start forming by hitting spall to thin point as shown. Continue forming basic shape.

Making flakes

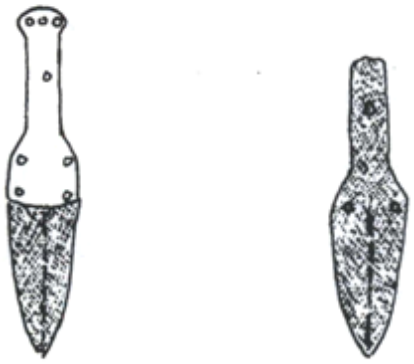


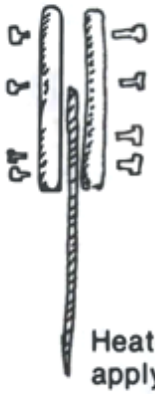
5. Put pad in hand. Grip spall and begin chipping with antler applying pressure down and out.

6. Finished point.

Knives

Cree Style





Heat glue stick, apply between handle and blade.

Green River Butcher Knife

Fixed Blade Skinning Knife

This dates back to about 500 A.D. by Anasazi Indians in southern Utah. This style also used by the Eskimo for skinning.

Chapter 4

Hunting, Tracking, and Trapping

In order for the Indian to survive it was of utmost importance for the male child to be trained early to understand the habits of animals and their use to man. Everything from buffalo to grasshoppers were sought after and eaten. They lived where the land could provide them with the particular diet they were used to such as fish from the Columbia River, grasshoppers and ants on the desert, buffalo on the plains, beaver in Canada, and vegetables, wild turkey and deer in the woodlands.

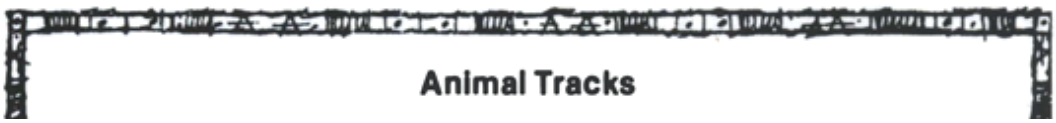
Today you must know your state laws on hunting, fishing and trapping. Proclamations can be obtained from your Division of Wildlife Resources. Know the laws and follow them diligently for your protection and to help maintain a balanced wildlife.

To learn hunting as the Indians hunted takes time and patience to learn. You must know what animal you are after, find out what the habits of the animal are, find where it lives, what it eats, and when. After you are thoroughly familiar with the animal you must learn to cover your scent, and learn to wait for the animal to come to you or be prepared to take a long, quiet hike hoping to find traces of the animal you are hunting.

Buffalo were not always hunted from horseback. Sometimes they were driven into stockades or over a cliff when the terrain permitted. Today special permits are drawn for hunts and in some areas they are much harder to find and hunt than in olden times.

Game birds were either trapped by deadfall or with nets. The larger eastern turkey was shot.

Spear fishing was done on major waterways and lakes. Fishline made of Indian hemp or sinew and bone or wooden hooks were also used.



Front

Back

Mule Deer

Front

Back

White Tail Deer

Animal Tracks (continued)

Front

Back

Bull Moose

Front

Back

Bull Elk

Animal Tracks (continued)

Front

Back

Antelope

Front

Back

Caribou

Animal Tracks (continued)

Front

Back

Cougar

Front

Back

Mountain Goat

Animal Tracks (continued)

Turkey

Canadian Goose

Tracks
Similar

Mallard Duck

Buffalo

Animal Tracks (continued)

Black Bear

Back

Front

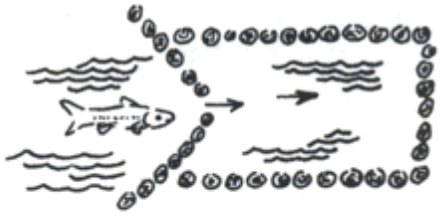
Back

Front

Grizzly Bear

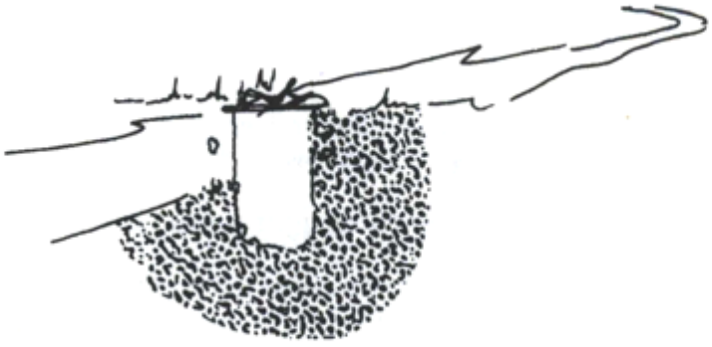
Fish Trap
(not legal in most states)

1. Stakes must be close enough together.



2. Make entrance going upstream.
3. Fish are speared in enclosure.

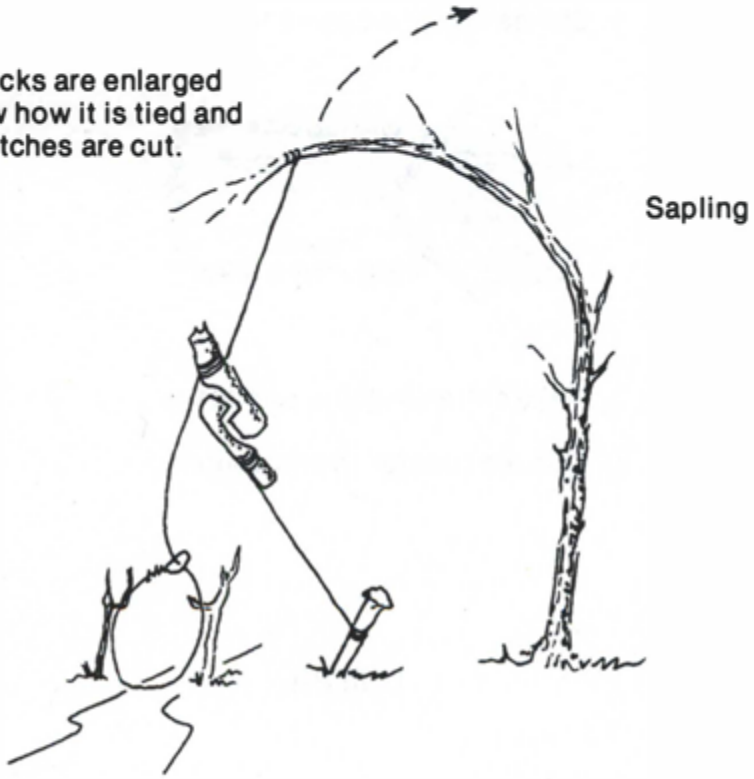
Trail Pit



1. Dig pit deep enough so animal can't jump out.
2. Camouflage top with light sticks, etc.
3. Put bait in center.
4. Be prepared to take care of what you trap!

Snare Trap

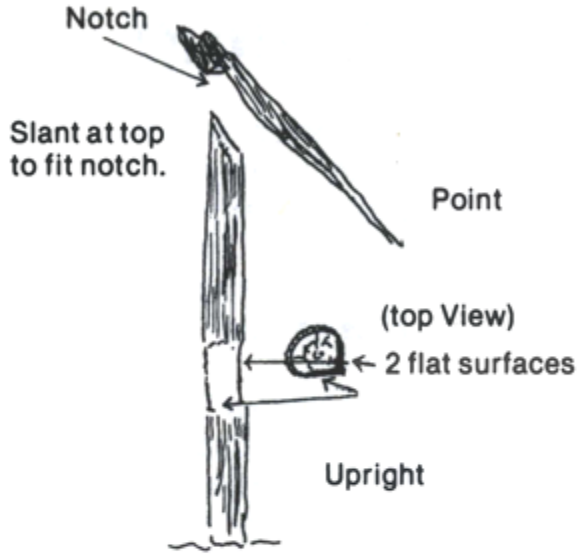
Two sticks are enlarged to show how it is tied and how notches are cut.



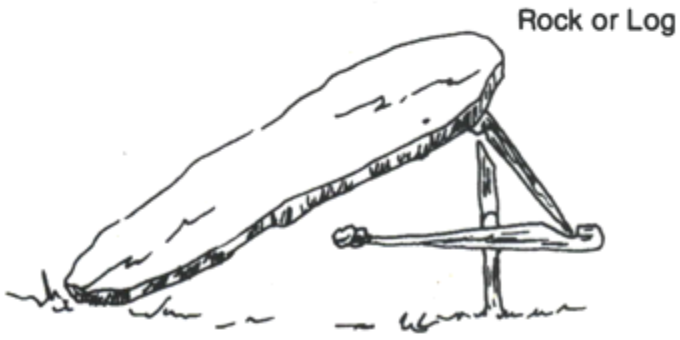
1. Cut twine or wire in 3 desired lengths.
2. Cut two small sticks (willow works great) and make notches as shown.
3. Tie noose to upper catch right above notch and to tip of sapling.
4. Tie lower catch tight below notch and stake down.
5. Bend sapling, hook upper and lower catch.
6. Set noose large enough for head to get through.

Figure-Four Deadfall

This trap may be large or small
depending on the animal you want to catch.



Two views of
horizontal stick



Chapter 5

Tanning

Many a time I have had someone come up to me to ask if my squaw chewed the hide to tan it. Common sense and research has revealed to me that the closest a squaw came to chewing a hide was to soften the sinew to separate the strands or chewing a piece of already tanned hide to make a crease. The only tanning process which will be treated here is the one used by most tribes: brain tanning.

This will involve obtaining either the brain of the animal killed or getting some from your local butcher. When the process is completed, and done correctly, the beauty of the hide cannot be beat. You can leave it white for ceremonial wear, and be very careful with it, or you can smoke it to the degree that it will be dark but soften up after becoming wet. Both sides will be like a fluffy suede.

Fleshing

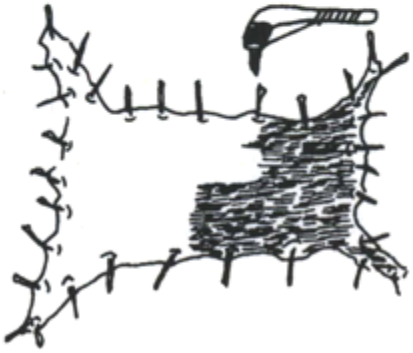
1. Take hide with hair on, lay it over a smooth log with one end tucked between log and tree so hide won't slide.
2. Using a bone or steel fleshing tool, pull down scraping *all* membrane and fat off.
3. Hide may also be staked on the ground and fleshed.

Hair Removal

1. Putrifying—Hide is put in water, stirred frequently until hair slips (very smelly).

2. Lye and Water—2 cups full of hardwood ashes and water in a barrel (plastic). Add hide, stir until hair slips. This causes the hide to be gray in appearance.

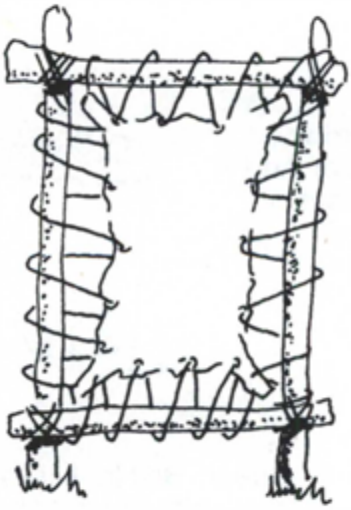
3. Stream Bed (not always available)—should have a rocky bottom with as little sand as possible. Put a heavy rock on one end and leave it until the hair is off.



4. Scraping—Stretch hide on ground with stakes. Make sure there are no rocks or lumps under it. Scrape starting at the neck and working down.

Braining

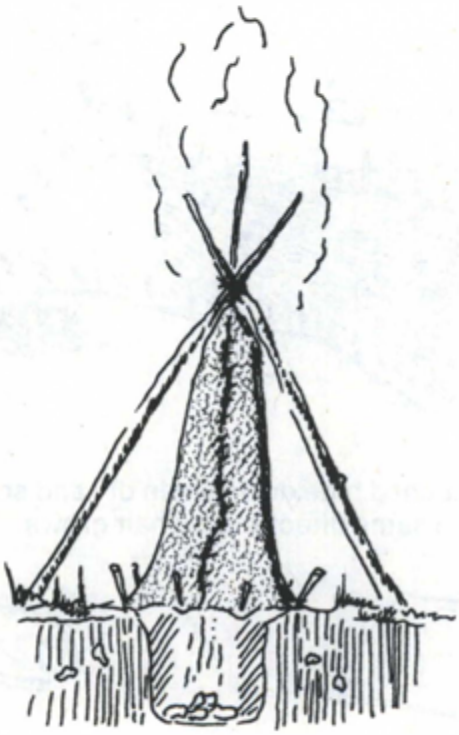
1. Boil brain of animal in one cup of water until brain turns white.
2. Rub brain on both sides of hide until it is gone. Pour boiled water (cooled) from brain over hide.
3. Roll hide up. Let it sit in a cool place for one day.



4. Stretch hide with sinew or heavy cord and work both sides with a graining tool until hide is completely dry.

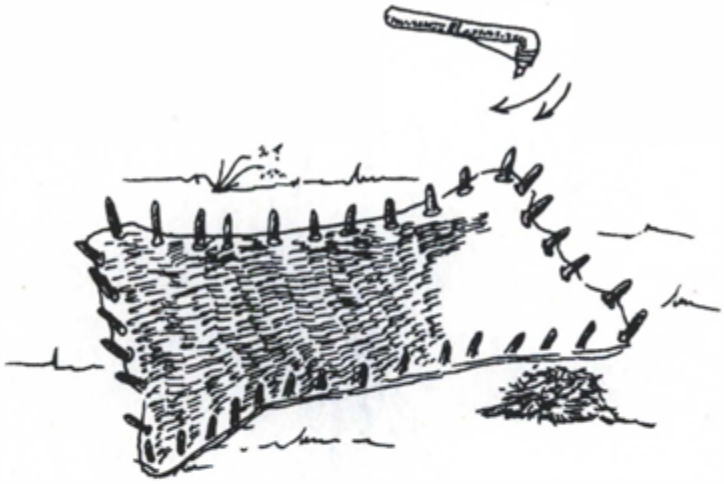
5. Take hide off frame, and work it over a tree limb or rope to make it softer.

Smoking
(waterproofing)



1. Dig a pit 2′ deep and 1′ wide. Fill it with rotten wood and burn until there is no flame. Dampening wood will help create smoldering.
2. Sew hide together to make a cone with one open end.
3. Place hide over hole and hook it to a tripod staking it around the bottom of the hide.
4. The longer you smoke the hide the more waterproof it will be. This can be done for hours or days.
5. Do both sides.
6. Hide is now ready for use.

Rawhide



1. Stake fleshed hide down when dry and scrape hair off in the same direction the hair grows.

2. Store either flat or rolled.
3. It can be stored wet in a freezer for use as drum heads, lace, and other articles needing wet rawhide.

4. For lace, cut the wet rawhide in a long, thin string starting on the outside of a round shape. Buckskin lacing is cut the same way using dry tanned skin.

Chapter 6

Clothing

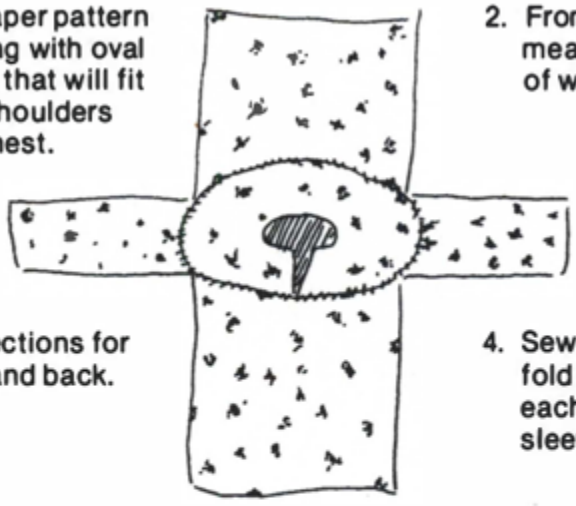
It is interesting to note that Indian fashion designers in the Americas were creating stylish clothing as far back as the Indian can be dated. Not all “savages” ran around without clothes on. Caribou, rabbit, deerskin, cotton, bark and other materials were used for their attire. Of course the climate and terrain had a lot to do with what they wore. This chapter will deal with the more common Plains Indian leggings and dresses that can be worn on most occasions.

Headgear consisted of furs, baskets, feathers, etc. In the movies you’ve seen the Indian with full-double trains on their headdresses going to battle looking so handsome. Yet imagine, with feathers flying in the wind, trying to get an arrow out of a quiver and getting all tangled up in the process. These works of art were used for ceremonial and special occasions and stored in a parfleche container when not in use.

Calico Shirt

In 1834 the Creeks, Seminoles, Sac and Fox were wearing calico shirts with or without collars. They were drop-sleeve without cuffs.

1. Cut paper pattern starting with oval shape that will fit over shoulders and chest.

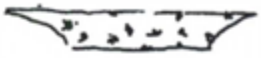


2. From oval end measure to end of wrist for sleeve.

3. Cut sections for front and back.

4. Sew as shown, fold over, and sew each side and sleeve.

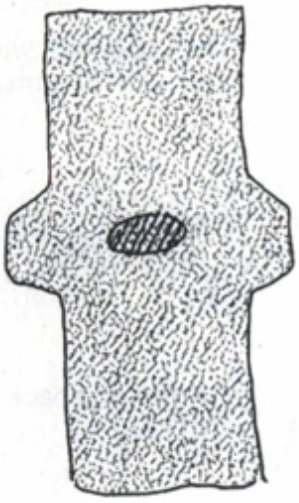
5. Add collar If desired.



Early Buckskin Shirt

The earliest buckskin shirts were very simple. A large buckskin hide was folded over and cut as shown below.

1. Cut



2. Punch holes with an awl, pull ties through and knot when front and back are together.

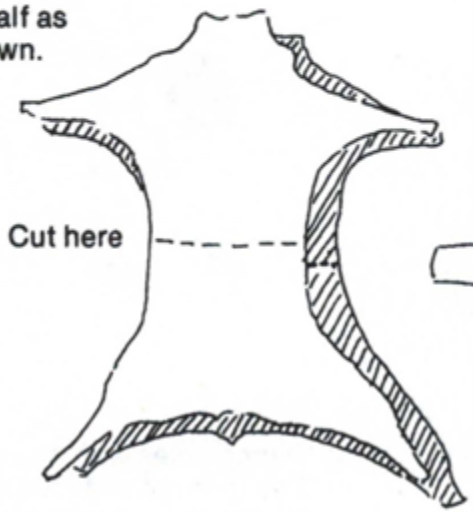
3. Cut fringe. Start on sleeves then work down the sides and on the bottom.

4. Quill work can be added for decoration.

Blackfoot- or Crow-Style War Shirt

1. This shirt takes 3 large hides or 4 small ones. Make a paper pattern first. Many Indians could measure by sight alone.

2. Cut hides in half as shown.



The upper half will be used for arms.

Front and back of shirt

3. Cut shoulder slope.

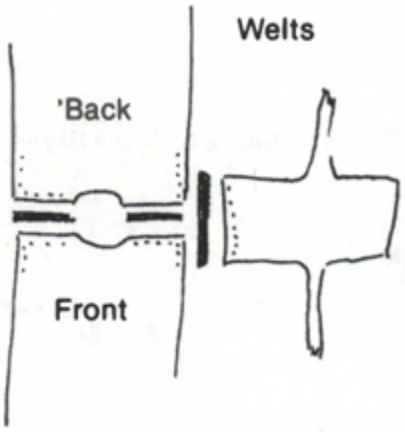
4. Cut neck area just large enough to get head through.

5. Welts were inserted between front and back at shoulder.

6. Sew shoulders together.

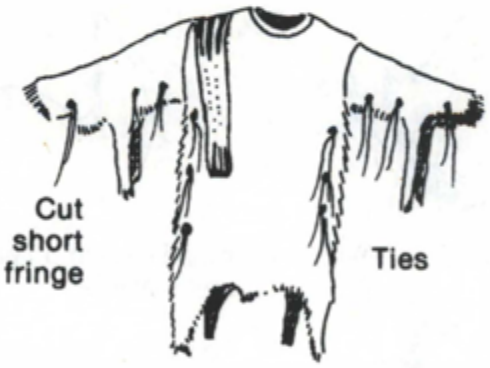
Use whip stitch on seams.

War Shirt
(continued)



7. Add sleeves to shoulders.
8. Fold front and back at shoulders. Punch holes with awl down each side.
9. Pull a double strand through front and back hides. Slide crow bead up against shirt and sleeves.

Bead or quill work on each shoulder



10. An option is to put another strip of leather around the neck, folded over the raw edge and sewn together.

Cross Section

Neck

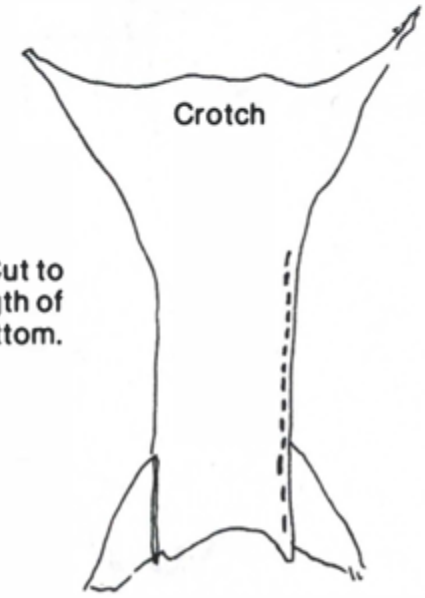
Buckskin Leggings

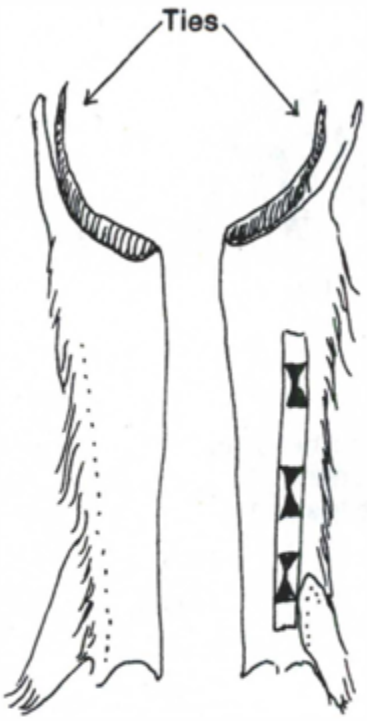
Leggings were very similar across the country with some variation in style.

1. Two hides are needed.

Early Sioux or Crow Style

2. Lay hide neck down and cut the front legs off. Wrap skin around your leg and mark where they meet.

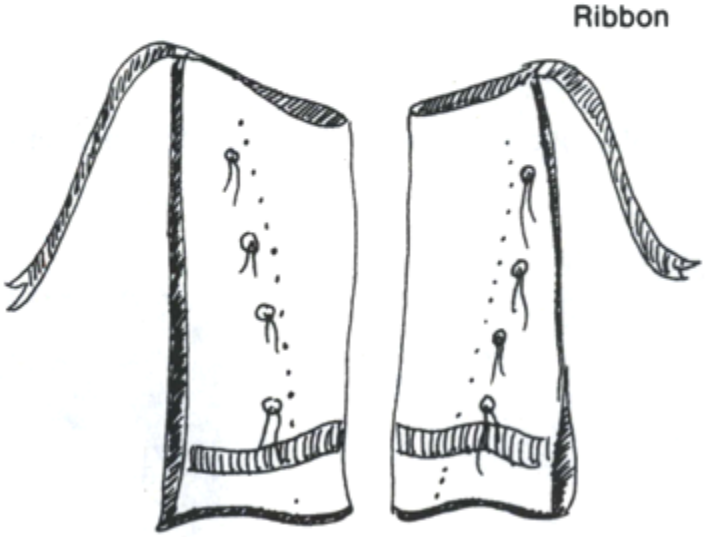




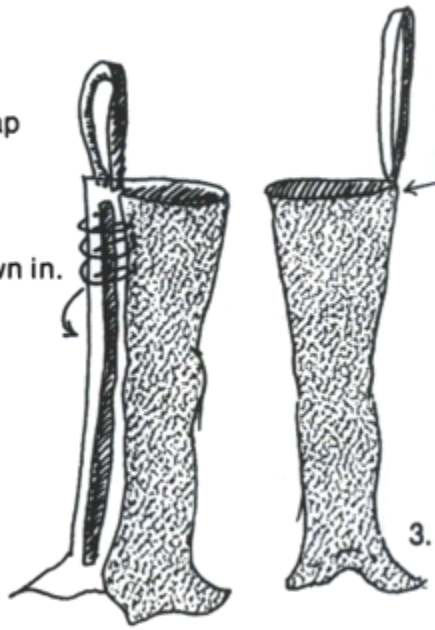
3. Flap is sewn on each side of ankle area.
4. To stitch, the leg is held together and sewn along the inside of marked lines without going all the way through either side. This way no stitches show.
5. Cut fringe.
6. Add bead or quill strip.

Blanket Leggings

1. Made basically the same as Sioux.



Sac and Fox Style Leggings

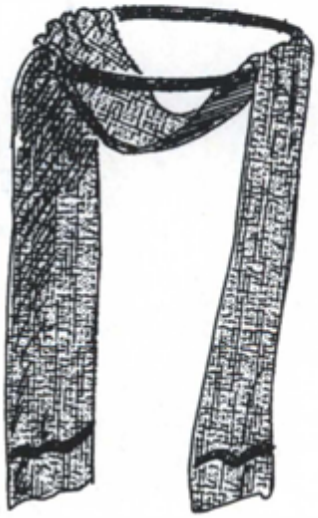


Breech Clout

This was a must of the times. They were made of soft buckskin or cloth. It varied in length according to the tribe. The Sac or Fox clouts were so short they looked like diapers.

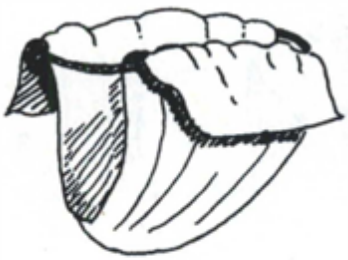
1. Cut out of wool blanket, red or blue trade cloth, or buckskin.

2. Leather strip for belt.



3. How the breech clout is worn between the legs.

Sac and Fox Style



Capote
(Blanket Coat)

The Hudson Bay Company was established in the territories of England to establish a fur trade with the Indians. Among one of the prized trade items was the Hudson Bay 4-point trade blanket. When the Indian obtained one of these blankets, it was then cut and sewn into a hooded coat that could keep the chill off at low winter temperatures.

This coat, used by both Indians and mountain men, is a good all-weather warm coat which can stand heavy usage. Typically, it was made from a Hudson Bay Blanket, but any good quality woolen blanket will do. The instructions for making the coat are as follows.

Instructions

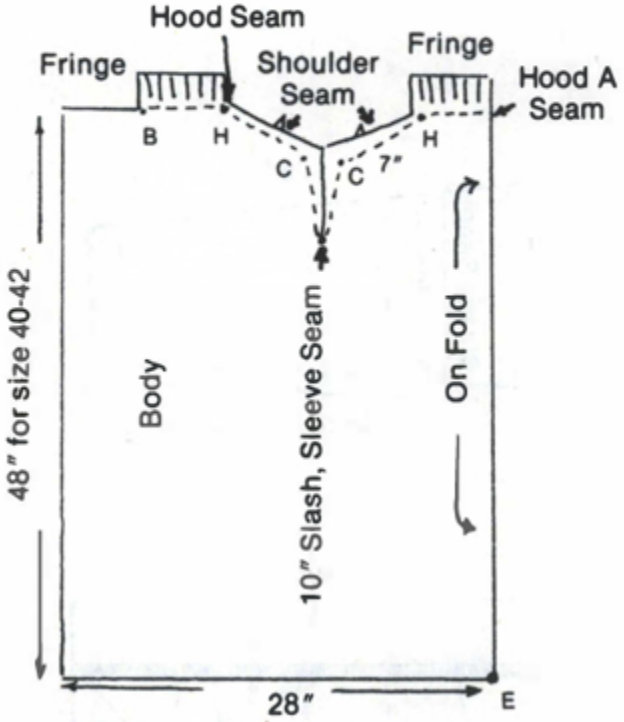
1. Enlarge the pattern onto a large piece of paper. Several sheets of newspaper taped together will do. Make sure that the measurements for the back length, A to E, and for the sleeve length, A to C and C to F are accurate. Take the sleeve measurement as shown in the drawing with the arm at the side.
2. Lay out the pattern pieces on the blanket which has been folded in half lengthwise. Adjust the pieces on the strips to obtain the best proportions. After cutting out the body and the hood and tassels, the sleeve pieces may be folded in half to facilitate cutting.
3. With right sides together, using a 5/8” seam, sew the shoulder seam CD.
4. With right sides together sew the underarm seam DG.
5. Place the sleeve in the armhole with the wrong sides together, the sleeve extending into the body and the fringe sticking out of the armhole. Align the seam lines, CD, sew and cut the fringe.
6. With right sides together, sew the hood seam H I placing the small ends of the tassels in the seam at point I with the tassels on the inside.
7. Fold the hood fringe back to the outside along line BJ and stitch ½” from the fold and hold it in place. Cut the fringe.

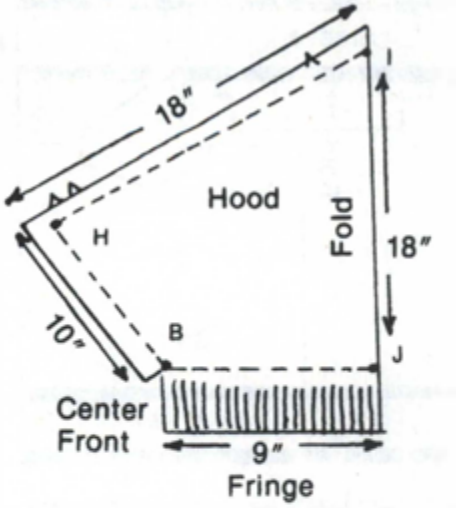
8. To sew the hood to the capote, place the right side of the hood to the wrong side of the capote making sure to match points B. Point A on the body should match point H on the hood at the center back. Stitch, cut the fringe, which will fold back to cover the stitching, and whip stitch the inner seam allowance to the capote.

9. On the outside, cover the armhole and shoulder seams with the grosgrain ribbon.

10. Bind all the raw edges of the front and cuff with ribbon and the front edge of the hood as well. The hem may be finished with ribbon, or a fringe may be cut, whichever is desired.

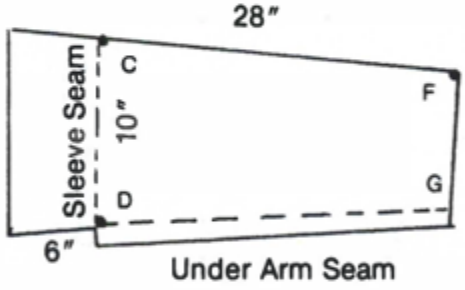
Capote

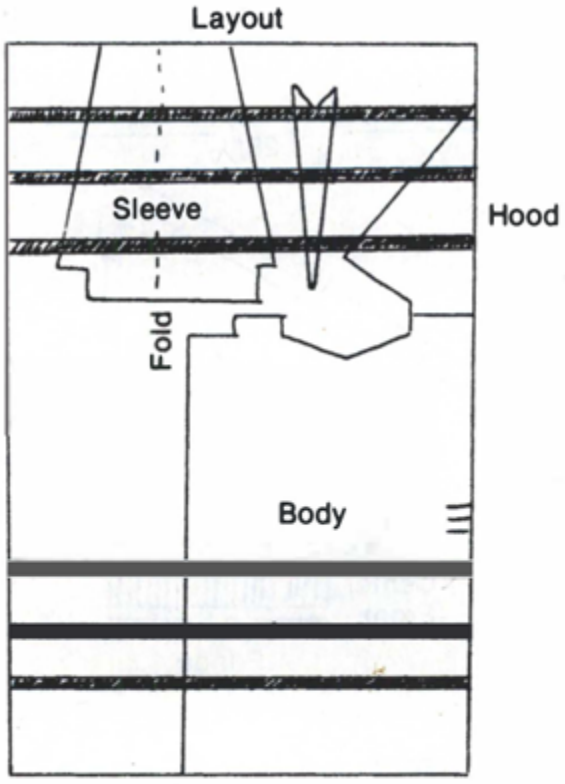




Cut 2
Tassels

Capote
(continued)

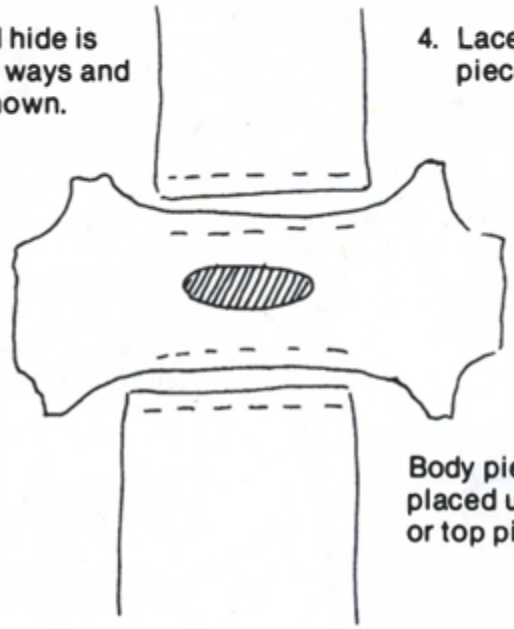




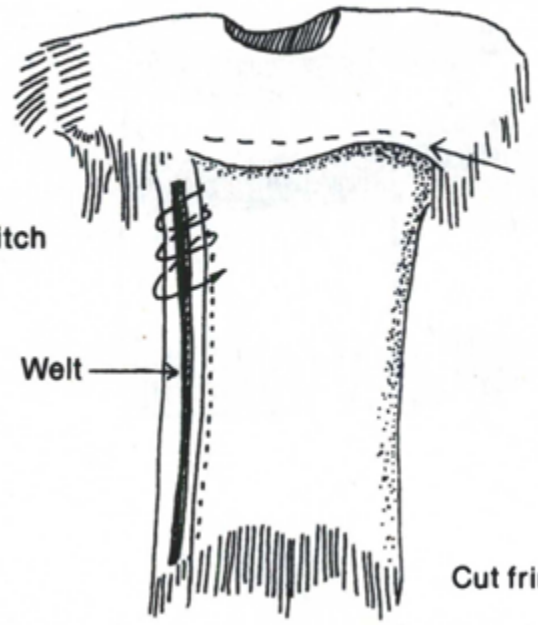
Capote
(continued)

1830 Crow Buckskin Dress

1. Three large hides.
2. Cut legs off two hides so the hides are rectangular.
3. The third hide is laid long ways and cut as shown.
4. Lace or sew three pieces together.



Body piece was placed under shoulder or top piece.



1830 Crow Buckskin Dress
(continued)

5. Can be decorated with quills, bead work or shells.

Apache Puberty Cape

1. One hide.
2. Cut oblong hole in center of cape.
3. Trim hide evenly and cut fringe long and thin.
4. Fold at neck.
5. Add trim around collar and front.

Sioux Cloth Dress

When trade cloth was introduced to the Sioux, they fashioned a very pretty black, red, and white dress that was good for summer use as well as special occasions.

Today, since many mountain man activities are held in the summer, a buckskin dress would be warm, so a decorative cotton dress would be the answer to keeping cool at Rendezvous.

The material is not expensive and can be purchased at most fabric shops.

Cowrie shells can sometimes be purchased at craft stores.

The Sioux Indian Dress is made of cotton or flannel with the colors being red, black and white. It can be trimmed with cowrie shells or elks teeth if you're fortunate enough to have that many. Plastic elks teeth are made, but most people don't like to use plastic. This dress is loose, airy and quite comfortable in the summer.

Instructions

1. Make either with black body and red border or the opposite, in either case, with white ¼" twill tape trim.

2. Measure elbow to elbow, shoulder to finished length, chest to which you need to add about five inches, and last, the head measurement to determine the neck size.

3. Lay out the body fabric as shown and draw the pattern on with tailor's chalk. This dress is loose; the underarm cut should not be too shallow—midbody below the bust line is about right. It might be a good idea to have the person for whom the dress is intended lie down on the fabric and trace the pattern around her body.

4. Open out the cut-out body fabric and trace onto paper the correct shapes for the sleeve and hem border. Then draw a large oval shape which should be at least as wide as the person's shoulders. Cut this out of paper and check it on the fabric to be sure that the shape looks good. Then cut these shapes out of the contrasting fabric.

5. Mark the head measurement with tailor's chalk onto the wrong side of the neck border. Do not cut it out yet. Lay the right side of the neck border on the wrong side of the body piece and sew around the marked neck edge.

Cut out the neck hole, clip and curve, turn it to the right side, and press. Lay the right side of the arm borders on the wrong side of the body and sew the outside edge. Trim the seam, clip the corners and turn and press.

6. Sew the loose edge of both neck and arm borders. Then add the twill tape trim to both edges of the border, covering the raw edge of the border fabric.

7. Sew the dress side seams, right sides together. Turn and press. Sew the side seams of the hem border. Turn and press.

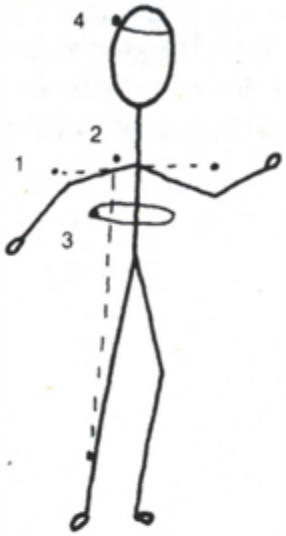
8. Attach the bottom border in the same manner as the other borders, i.e., sew hem edges, right sides together, then turn, press, sew the raw edge down and add trim.

9. Sew the decorations on by hand, using as few or as many as desired. Sew the bottom edge of the sleeve together in at least three places with the decoration, one on each side.

Sioux Cloth Dress

1.

2.



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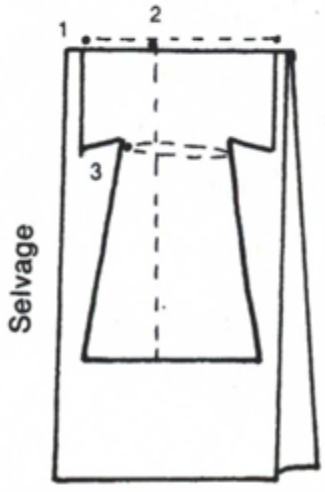

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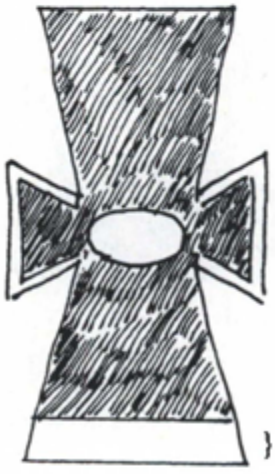
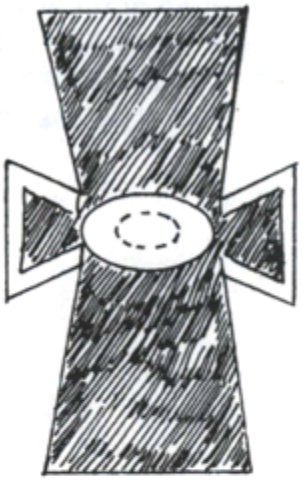
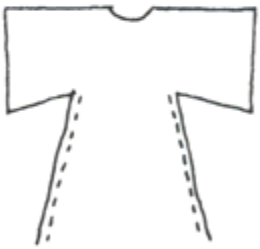


Sioux Cloth Dress
(continued)



5.

6.



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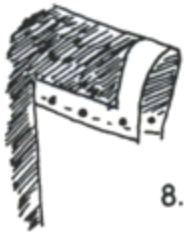


8.

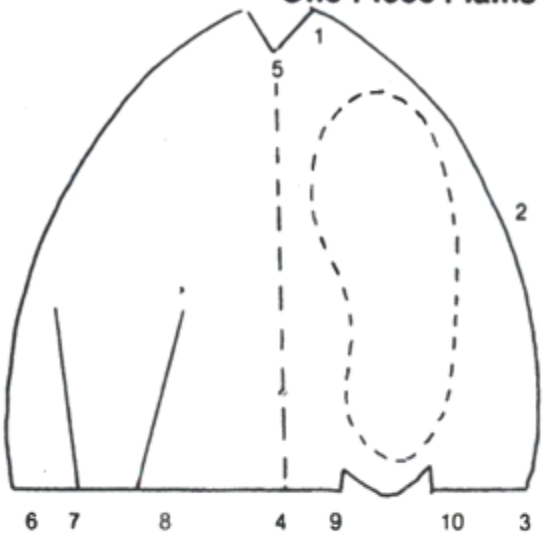
9.

Moccasins

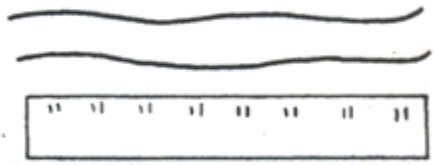
The terrain determined what type of moccasin was worn. Archeological finds have shown that sandals seemed to be the forerunner for Indian footwear though.

Determine what kind of terrain you will make your moccasin for and go from there. If you are going to be on rocks and hard ground with cacti around, soft soles are not what you want. On the other hand if you’re going to do some stalking in wooded areas on soft forest floors, a good Seneca or one-piece Plains-style soft-soled moccasin would be just the thing.

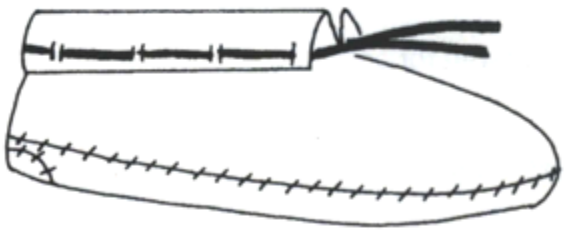
One-Piece Plains Moccasin



1. Begin by drawing pattern of foot on the flesh side of soft leather.
2. Locate the point 1 about ½ " from the tip of the toe.
3. Draw a line 1 to 5 about 1½ " long.
4. Draw line 1, 2, 3 ¼ " from sole outline at point 2. At 3 it should be 3" from the center of the heel and ¼ " below it.
5. Draw line 3 to 4, about 6".
6. Cut out drawing that is made and fold over on dotted line 4 to 5.
7. Draw around cut edge for the other side and cut out.
8. 7 and 8 are flap cuts at an angle 6" long.
9. 9 and 10 are ½ " deep and 1¼ " wide.
10. Fold so that points 6 and 3 touch and sew (inside out) from point 5 to 1, 2 & 3 then the back of the heel.



11. Cut two strips of leather 2" wide and long enough to go around the top.
12. Cut slots for drawstring and sew to top of moccasins.



13. Insert drawstrings and the moccasins are ready to wear.

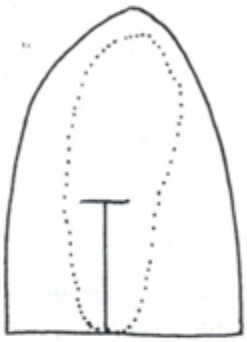
Two-Piece Plains Moccasin

Latigo or
Rawhide Sole

1. Start with paper pattern. Sole is measured by placing right foot on paper and drawing outline. Add ¼ ″ all the way around. This will be the sole pattern.

2. Take another piece of paper, lay sole pattern on it. Add ½ ″ to length.

3. Measure over the top of the foot from floor over the top to floor. This will determine the width. From the widest portion go straight down to the back.



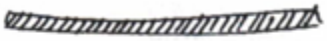
4. Cut a T in the pattern and set it over your foot. Work with it until you feel it is right.

5. Cut out latigo or rawhide sole using the sole pattern.

6. Cut out leather for top using the top pattern, reverse it for the other foot.

7. Cut tongue as shown.

8. Cut lace and welt for both moccasins.



9. Starting with top and with sole inside out, place welt between. Start sewing at the toe going only into the upper edge of the sole, not straight through it.

Two-Piece Plains Moccasin
(continued)

10. Add tongue, cut slots around ankle for drawstring.

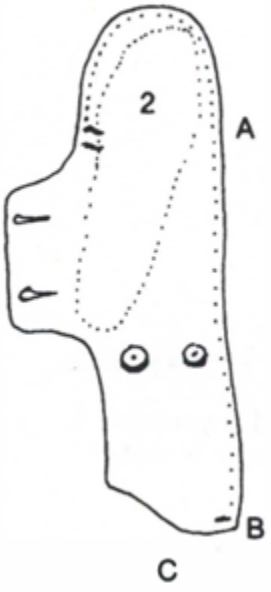
11. The finished moccasin can be beaded. If you want to do this do the bead work before sewing it together.

Navajo-Style Moccasin

1. Draw outline of foot on inside of rawhide sole made of cow, elk, or horse. Draw another line ½" all the way around.

2. Skive ½" from edge of sole to outline of foot.

Navajo-Style Moccasin
(continued)

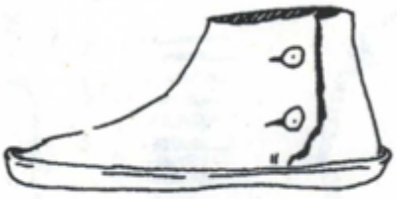


3. Put your foot on the outside of leather, measure ½" from the tip of the toe and mark, measure ½" from the heel and mark.
4. Measure 1" out from ball of foot on either side and mark.
5. Measure from ball of foot on one side around back of heel to the other side. This will be the distance from A to B.

6. C will be ½" wider than width across the widest part of foot.
7. Go from part C to heel.
8. From the heel out to left side should be 4".
9. D should be same length as C.
10. Going back to side of foot, E should again be 4".
11. You should now draw the outline as shown.
12. Wet the sole, take a curved needle and sinew and sew on the inside starting from the toe very loosely to the center outside, cinch up tight and leave long length.
13. Again start at the toe and begin sewing inside very loosely. Work around to the other thread and cinch up tight.
14. Buttons and holes are added.

Top Cross Section
Showing Stitching

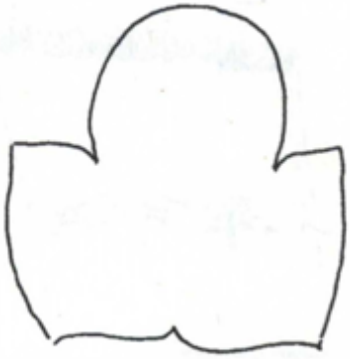
Navajo-Style Moccasin
(continued)



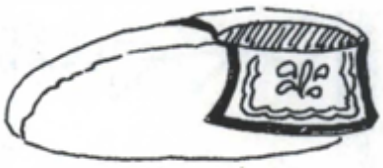
Finished Navajo Moccasin

Woodland One-Piece Moccasin

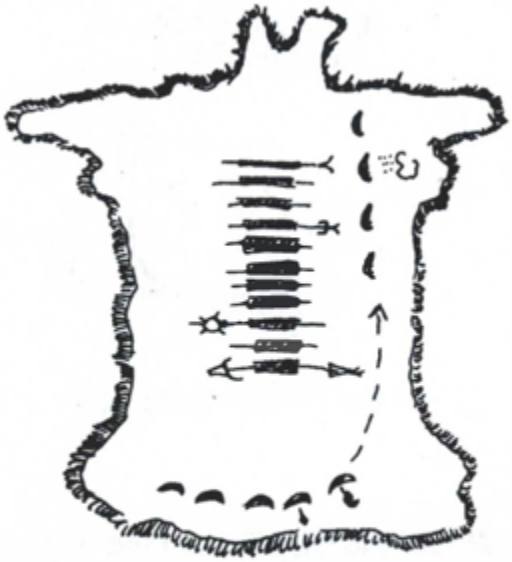
1. Layout a large piece of paper and trace foot.
2. Double width of foot and add about 3" on each side for flaps.
3. The length is about ¾" past the toe and heel.



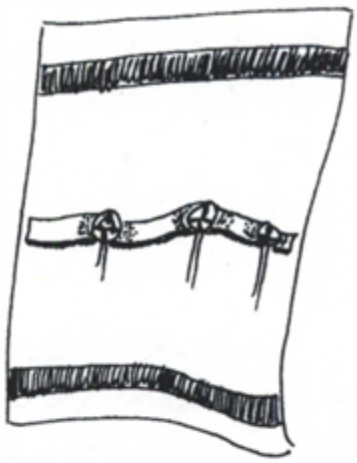
4. Fold in half and start sewing at toe (inside out) gathering it the length of your toe. At that point continue sewing but don't gather.
5. Sew up heel after putting moccasin on and marking to fit.



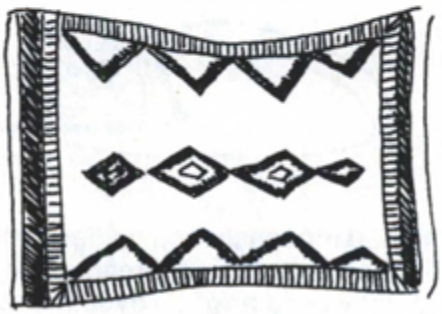
6. Finished moccasin can be decorated with quill, beads, or bright threads. The Huron originally used brightly dyed moose hair.



Buffalo Robe



Trade Blanket with Bead Work



Southwest Blanket

Headdresses

Womens' Pomo and
Paiute Head Basket

Osage fur hat, open on top
with bead work around
top edge.

Iroquois, Wea, or Delaware
wore cloth turbans.

Crow War Bonnet

1. Make cap of hide to fit head slots for thong.

2. Glue and tie Marabou (fluff).

3. Glue leather loop to base.

4. Add flannel binding around base leaving loop free.

5. Wrap and tie binding with sinew.

Crow War Bonnet
(continued)

6. Start lacing feathers to cap.

(close-up)

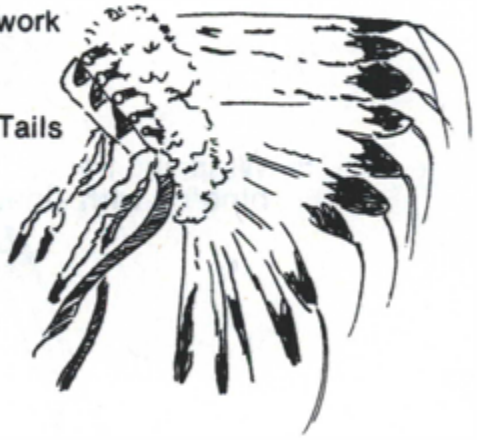
7. Feathers are laced together with thread to help keep the shape.

8. Add plume (stripped feather) and fluffy little turkey feathers to base of cap.

Dyed horsehair glued to tips.

Beadwork

Ermine Tails



Hair feathers are put in a wooden pin and wrapped with sinew.

Completed War Bonnet

Chapter 7

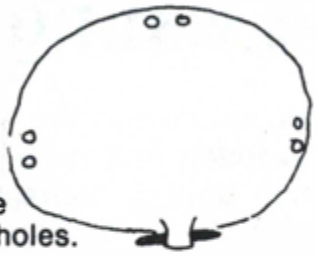
Cooking and Eating Utensils

As in the other chapters, nature was the provider. Cooking and eating ware consisted of wooden and clay bowls, horn spoons, basket grain-holders, paunch boiling containers, bark pails and grinding stones to name a few.

The cooking fire was started with friction sticks or flint and steel.

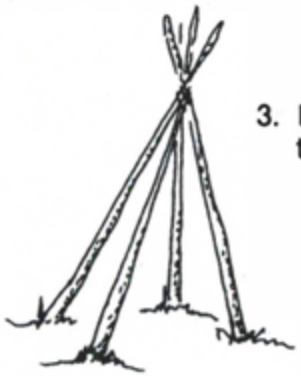
Most of these items are easily made yet are very important to the stomach.

Hide or Paunch Cooking



1. Make hide as large as you want it.

2. Strong pegs are inserted in the holes.

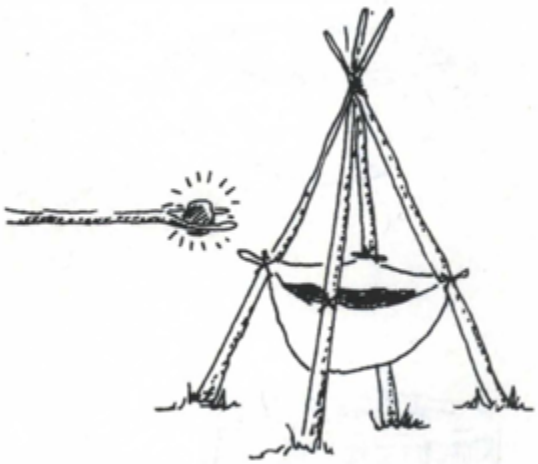


3. Lash four poles in tripod fashion.

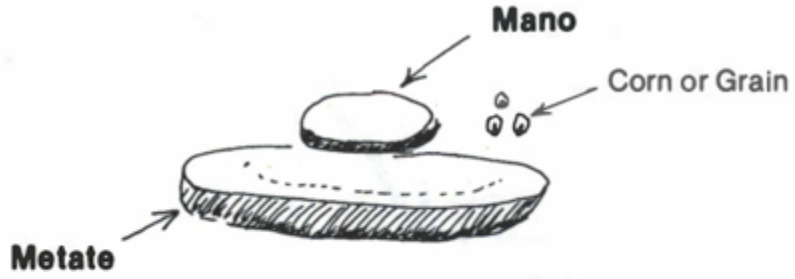
4. Peg is put up against the inside of the pole and lashed to the pole.

5. Heat rocks.

Hide or Paunch Cooking
(continued)



6. Add water, meat, vegetables and seasoning.
7. Add hot rocks to bring water to a boil.
8. Don't eat the rocks.



Wooden Bowl

1. Section of dried log marked, then carved on the outside.

2. Inside can be carved out with an Abnaki (crooked knife) by pulling around the inside.

Southwest Cooking Pot

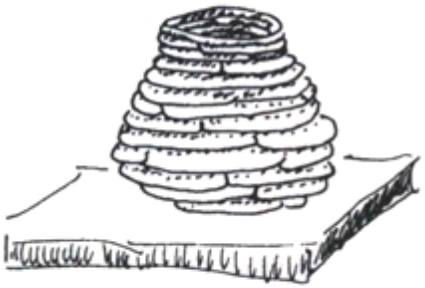
1. Red and gray clays are found, dried and ground, then mixed with small amounts of ground brick with water until it becomes pliable.

2. Knead the clay, cut it with a knife, and throw fist-sized pieces onto a flat wood or rock and knead some more. (This is to get the air bubbles out.)

3. Roll small pieces on board until a snake-like strand forms, about the thickness of your little finger.

4. Start a tight coil at the base and continue adding strands of clay. Lightly squeeze together until you have the desired shape.

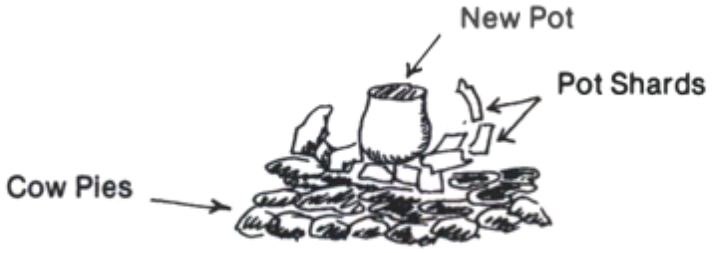
Southwest Cooking Pot
(continued)



5. Once you have your clay shaped, put one hand inside, using a small, flat scraper in the other hand and smooth the outside then the inside.

6. Put in a cool, dry place. Dry slowly to prevent cracking.

7. When dry, take the shape and apply slip (watered-down clay) and rub it on the surface. If a high sheen is desired, it must be rubbed with a ***smooth*** flint to polish.



8. Cow pies or sheep dung are used for firing. Place on a good foot of dried manure about 3′ × 3′ wide. Take broken pottery and set on top, placing the new pot in the center.

Southwest Cooking Pot
(continued)

9. Place pot shards on sides and top then put manure about 2′ deep on sides and top. Start fire evenly around the base and let it burn until only ashes remain, let cool, and remove pot.

Tripod for Cooking

1. Use 3 wrought iron rods 4 ′ high and interlock end by bending rings.

2. Adjustable hanger and hook for pots and buckets.

4. Set up to hang pots.

3. Can be adjusted to different lengths by putting in a different hole.

Horn Spoon

1. Horn spoons made from buffalo, big horn sheep or elk were common among many of the tribes. Good cow horn will work.
2. Clean inside of horn out, then scrape and file the surface.
3. Sand and rub if you want it smoother.

4. Cut horn as shown.

5. Drill hole.

Finished Spoon

Chapter 8

Foods

No food, no life! The life of the Indian was centered around the need to find nourishment. Due to nature's way of doing things, there were times of famine as well as times of plenty. On the plains, the Indian moved with the buffalo herds. The Pueblos depended on rain for crops and when there were droughts, starvation wiped out whole communities. Digger Indians ate roots and insects, while the Eskimo ate seal and caribou. Those who lived along rivers sustained life with fish as their main diet.

Much of the food from that era can still be found today with a few exceptions. Remember that any wild foods must be obtained legally, and be sure you know, for certain, what plant you are gathering. It only takes one bite of "death camas" to do you in.

List of Common Indian Foods

Acorn
Antelope

Beans
Bear
Beaver
Birds
Buffalo

Caribou
Chokecherries
Corn
Crabapple
Currants

Deer

Eggs
Elk

Fish

Hickory nut oil

Locust tree blossoms

Maple sugar
Mescal
Mountain sheep

Pine nuts
Prickly pear cactus fruit
Pumpkin

Rabbit

Squash
Sumac berries
Sweet potato

Turnips

Watermelon
Wild berries
Wild onions
Wild rice

Yucca—central stem of narrow leaf
Yucca fruit

Drinks

Wintergreen—leaves
Spruce leaves
Red raspberry—twigs
Chokecherry—twigs
Wild cherry—twigs

Seasonings

Mountain mint—flowers and buds, for meat or broth
Wild ginger—root put in with cooking meat (also good for digestion)
Corn silk—dried by the fire and put in a broth

Vegetables

Jerusalem artichoke—root eaten like a radish
Arrowhead—root, strung and dried and later boiled
White pine moss—boiled and put in a fish or meat broth
Common milkweed—flower, cut up and stewed
Bullrush—bulb at the end of the root, sweet in summer, eaten raw
Aspen syrup—between the bark and the wood

Food Preparation

Wild Rice*—Menominee (Algonkian), Chippewas*

Wild rice was harvested in the Lake Superior and Lake Michigan regions but it was not actually a rice. Stalks were bent over the boat and beaten with a paddle, then the stalk was released. Next it was dried in the sun then beaten again to remove the hull. It was placed in a bark tray or blanket and winnowed with the wind. After that the wild rice was washed three or four times. Prepared by boiling in two parts water to one part rice with one or two spoonsful of maple sugar added, or the rice was cooked in a stew.

Fish*—All tribes near waters containing fish (except Blackfoot, Crow and Comanche)*

Catch fish either by net, spear, trap, or line, then clean. For preservation, fish were smoked or dried over low heat and placed on green sticks high enough above the fire so that the sticks didn't burn. If fish were to be eaten fresh they were either put in the ashes to roast, or encased in clay and broiled in the coals, or placed on pronged sticks to roast over a fire.

Com*—All farming tribes*

To roast the corn put it, husk and all, into the raked-out fire pit (after a hot fire) then put cold ashes over it with a layer of hot coals on top of this.

Roast for about 10 to 15 minutes. Remove corn from pit, clean off the husk, and eat.

To parch the corn, strip the kernels from the cob and place them in a pan filled with salt and mix it until the corn is covered. Set above the fire. It is done when the corn is brown and swollen. When ready to use, pound into a fine meal which can then be mixed with dried berries.

Cattail*—Most tribes*

The root was washed and eaten raw, or boiled, or dried and pounded into a flour for bread.

Squash*—Farming tribes*

Put the whole squash in hot ashes and bake it. You can also eat the seeds —shell and all.

Chokecherries*—Western tribes*

After it was picked and the seeds taken out (poisonous), it was sun dried for storage, then eaten as dried fruit or pounded to mix with corn flour or pemmican.

Prickly Pear Cactus Fruit*—Southwestern tribes*

Harvest the buds prior to flowering and cut the outer skin off. This was eaten as is or mixed in with stews.

Jerky*—All tribes*

There are many ways to fix jerky, but the original way was very simple. Indians used the meat of buffalo, deer, elk, or goat. The meat is cut into thin strips about 2 inches wide and 6 inches long then laid over sticks or on flat rocks in the hot sun or near a fire to dry until it becomes leathery. Some tribes used salt on it and if you want a little more flavor you can add pepper. (Pepper is not an Indian spice, of course.) When jerky is dry, store it in a cool place.

Pemmican*—Most tribes*

This is a good winter survival food that can really be a lifesaver. The food was prepared for long storage and was very nutritional. To make pemmican, grind jerky into a powder. (The amount depends on how much you are making.) Take dried berries (cherry, raisins, currants, etc.) and grind jerky and berries together. The Indians did this with a stone maul or mano and metate. Take the kidney or loin fat from beef (originally made from buffalo), melt over a fire until it is clear, then mix this with the berries and meat powder until it sticks together. Shape into balls the size of fists or smaller. Lay out flat and cut into pieces when it is cooled. Store in a cool place. It is possible to save this for a year or two but the taste of stored pemmican might not suit you. Pemmican was originally stored in raw-hide bags. (Do not use deer or elk fat.)

Eggs*—Coastal and lakeshore Indians*

Duck, bird, turtle, and alligator eggs were harvested in marshy areas. Today you must check on laws concerning the collection of wild birds' eggs. Most are not legal to gather. Boiled eggs were eaten by the Indians as we eat them today. The eggs were placed in a paunch of boiling water, or with the stew, and were cooked for about five minutes. Removed, they were shelled, and eaten. Another method used was to crack the raw egg into the stew, or soup, and cook it in the broth.

Waterfowl*—Paiutes and lake tribes*

Waterfowl must be taken only in season and only with legal methods. Nets and traps were originally used. When a waterfowl is killed, cut the head off the bird immediately to bleed it. This will rid the meat of the muddy taste, to some degree. Clean it out and skin it rather than plucking the feathers. Skewer the bird through the middle with a green stick and prop it over a fire high enough for it to cook slowly, turning it often.

Both the nomadic and farmer Indians had, at one time, quite a lot of food provided by mother nature and they used it wisely. When the white man arrived, the Indians' food sources were terminated to a great degree. Today, some of those food sources are still there, but laws, and good common sense, will dictate the use of these sources.

Wild Plants for Medicine

Headache—Dogbane: root, dried and pulverized. Four small pea-sized pieces ground and snuffed up the nostrils.

Headache—Yarrow: leaves, decoction, sprinkled on hot stones and fumes inhaled.

Cold—Calamus: root, pulverized, snuffed up nostrils.

Cold and cough—Burdock: leaves, a handful steeped in a cup of boiling water taken after a coughing spell for a hard, dry cough.

Sore throat—Chokecherry: inner bark decoction gargled.

Indigestion—Wild Ginger: root, sliced and cooked with food.

Indigestion—Arrowhead: root, steep in water then drink.

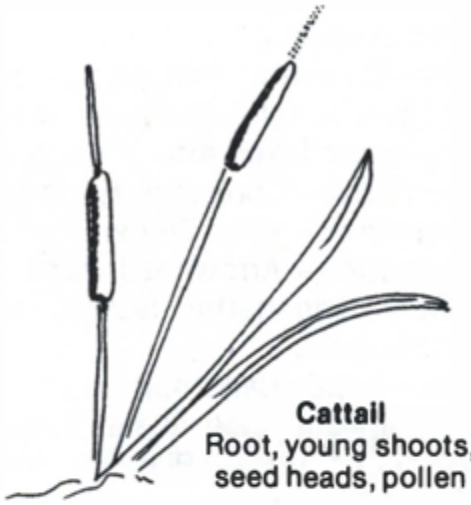
Colic—Hedgenettle: leaves, steep in hot water then drink for sudden hard colic.

Cuts—Aspen Bark: spit on the cut and draw the edges together, chew the bark and apply this as a poultice.

Poisonous bites—Plantain: fresh leaves and root, chopped and applied to the bite.

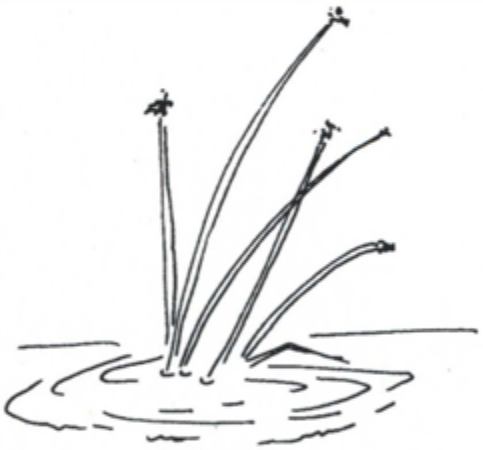
Wild Plants

Mint
Good tea and
seasoning leaf.



Cattail
Root, young shoots,
seed heads, pollen

Dogtooth Violet
Whole plant



Bulrush
Roots, seeds

Yarrow
Flower, root

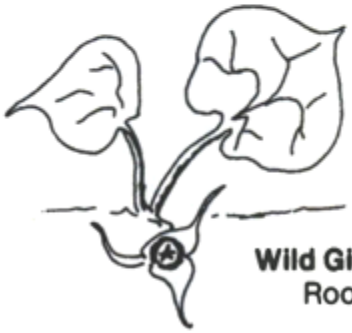
Wild Plants
(continued)

Plantain
Leaf

Indian Potato
Root

Burdock
Root, burr, leaf

Chokecherry
Fruit



Wild Ginger
Root

Wild Plants
(continued)

Dogbane
Root

Willow
Bark

Wild Lettuce
Leaves

Western Cone Flower
Flower heads, leaves

Wild Sage
Leaves, branches

Wild Plants
(continued)

Watercress
Leaves, stem

Bristle Grass
Seeds

Wild Barley
Seeds

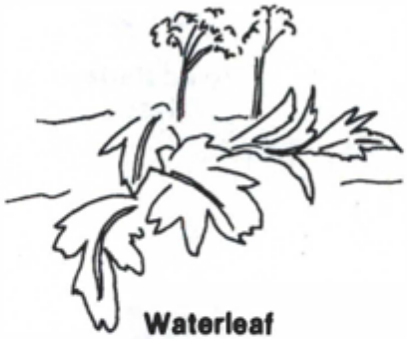
Wild Onion
Root

Russian Thistle (Tumbleweed)
Young shoots

Wild Plants
(continued)

Sorrel
Whole plant (small dose)

Thistle
Young whole plant



Waterleaf
Root, leaves

Mullein
Root, leaves, flowers

Wild Plants
(continued)

Stinging Nettle
Leaves, young stems

Pigweed
Stem, leaves, seeds

Sunflower
Leaves, flower

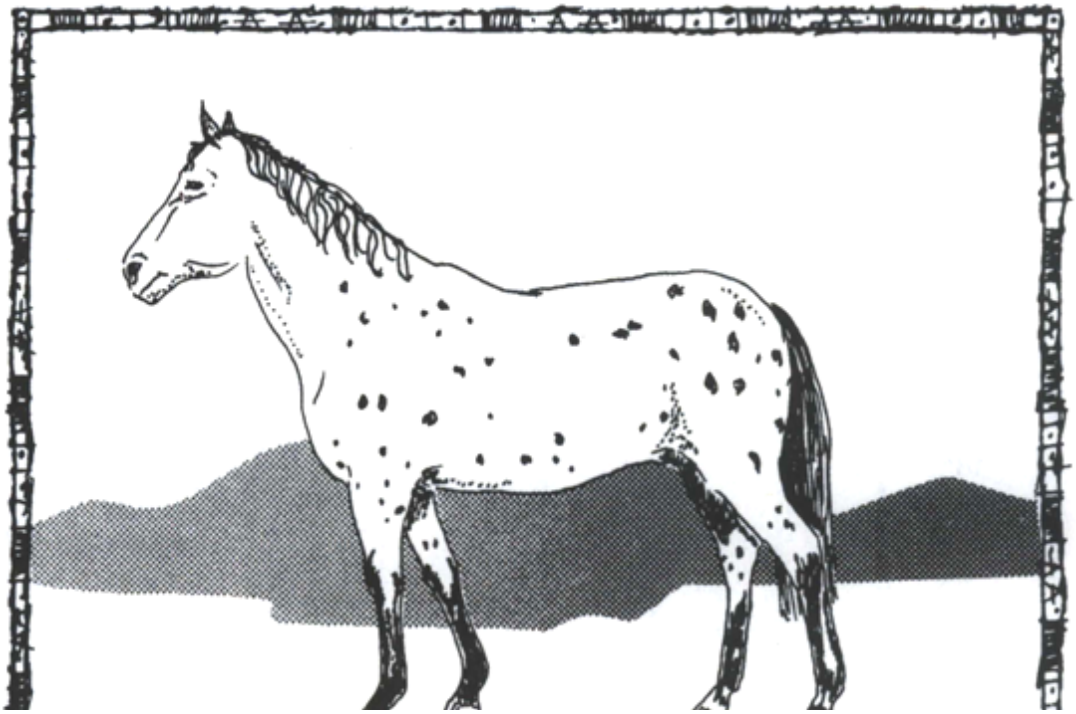
Milkweed
Root

Chapter 9

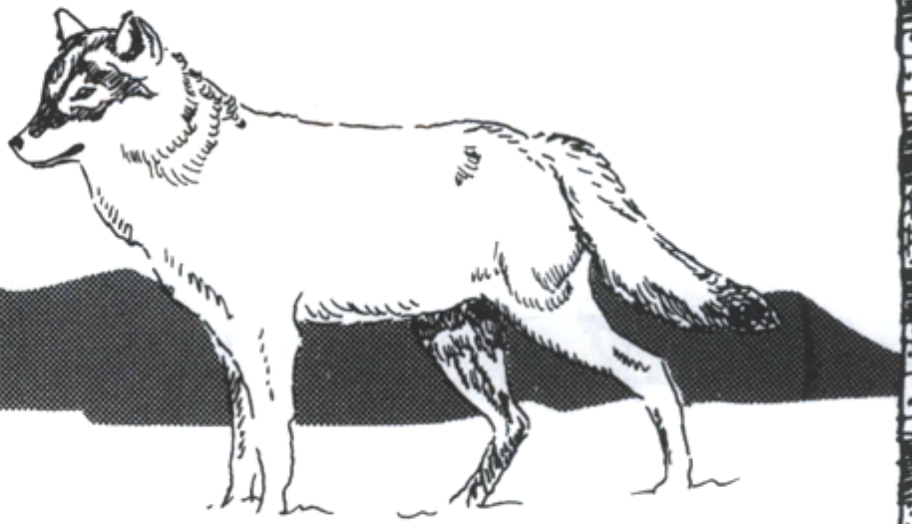
Transportation

Man, dog, horse and boat constituted the main modes of transportation for the Indians. All four ways to travel are still available today. Many experts claim that the horse was introduced by the Spanish, but ruins that predate the Spanish show carvings of horses and toys have been found in the form of a horse.

Horse and dog and canoe lightened the load and helped make hunting and moving about easier for the Indians. Several kinds of boats, i.e., canoe, kayak, and dugout, were used extensively in their respective regions for obtaining food as well as for travel. The basic design of the birch bark canoe will give you an idea of how much skill was involved in their construction. Knowing how canoes, saddles, and travoises were made and used might help you build your own.



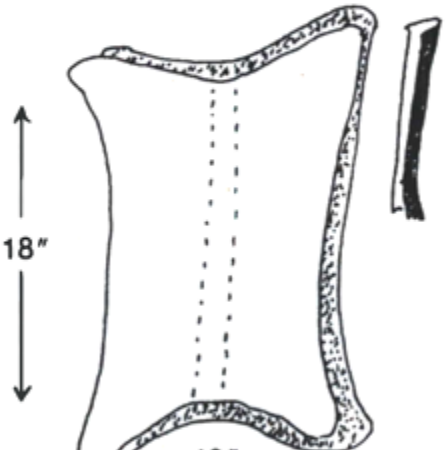
Horse



Dog

Man's Pad Saddle

1. Cut two pieces of buckskin similar to an hourglass shape.



Wool Edging

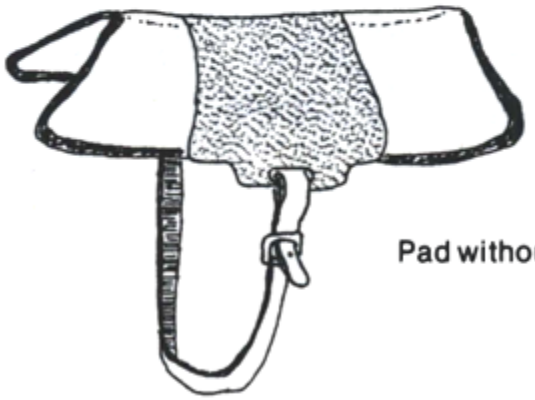
Use good cinch leather and buckle for cinch.

← 16" →

2. Stitch the two pieces together through the middle in two lines about an inch apart.
3. Sew sides using a wool edging of red or blue and leaving a hole for stuffing.
4. Stuff with sheep wool. Originally buffalo hair or grasses were used.
5. Sew up the hole.

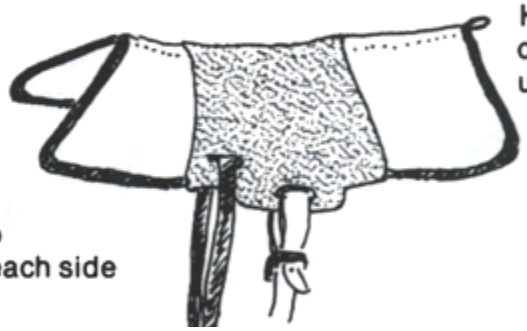
Stirrup straps can go completely over to other stirrup or connect to upper cinch strap.

Upper Latigo Cinch Strap



Pad without Stirrups

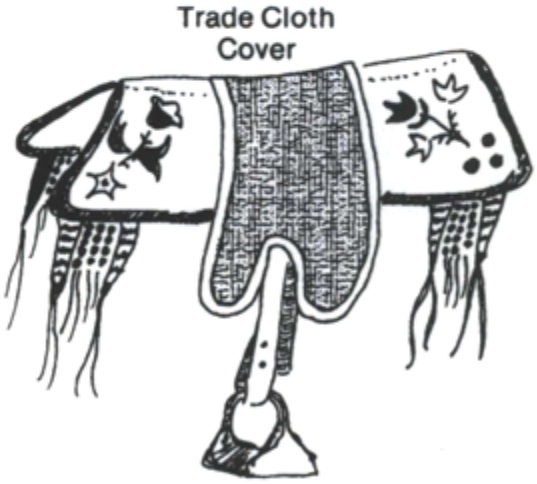
Man's Pad Saddle
(continued)



Hoop for crupper going under horses tail

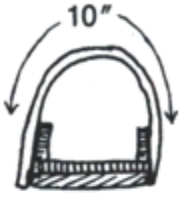
Stirrup Strap
Connect to each side

Decorated Boy's Saddle



Stirrups

1. Cottonwood or poplar wood is used.
2. Carve out parts
   and tack together.



1" x 2"

3. Cut two pieces of wet rawhide to go on top and on bottom and sew together.

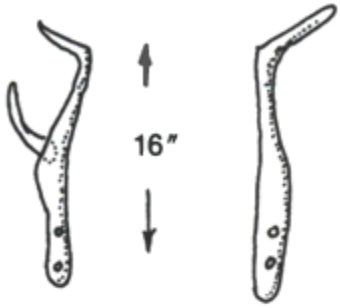
Two pieces of rawhide

4. Cut two sections of wet rawhide for inner portion of sideboards.

Woman's Saddle

Cottonwood, Deer
or Elk Horn

Side
View



Pommel

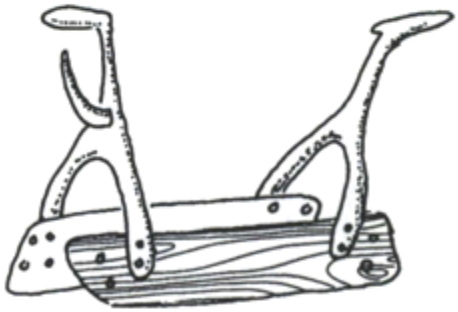
Cantle

Front View

← 6″ →
for pommel
9″ for cantle

← 18″ to 20″ →

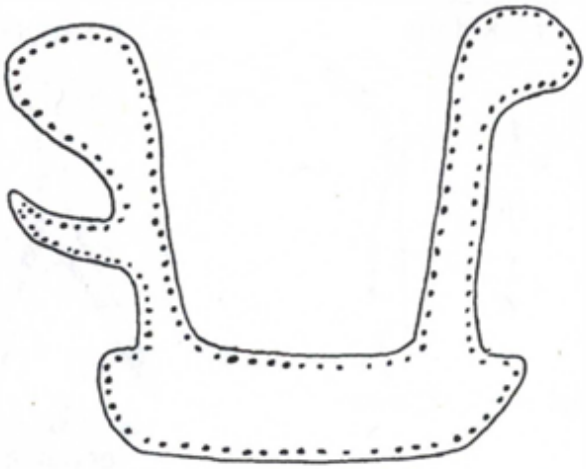
← 8″ →
in front
11″ in back



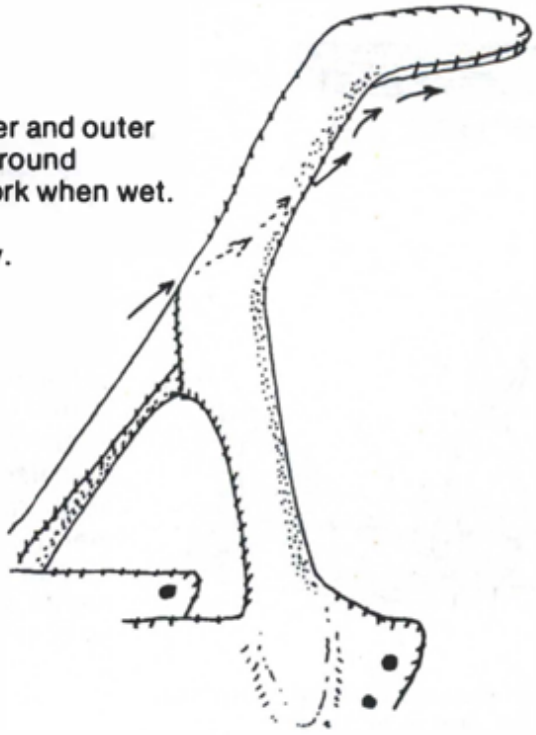
If this is going to be used on a horse, it is best to fit it to the horse rather than use the above measurements on the spread of the cantle and pommel.

Insert dowels through pommel, cantle, and side boards.

Woman's Saddle
(continued)



5. Cut two sections of rawhide as shown, for outer sideboards, pommel and cantle.

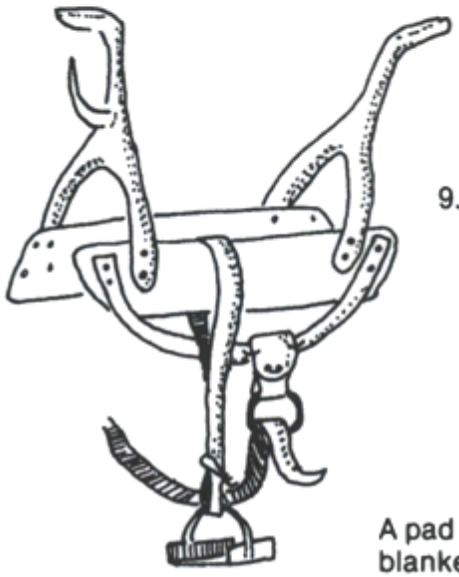


6. Sew inner and outer pieces around framework when wet.

7. Let it dry.

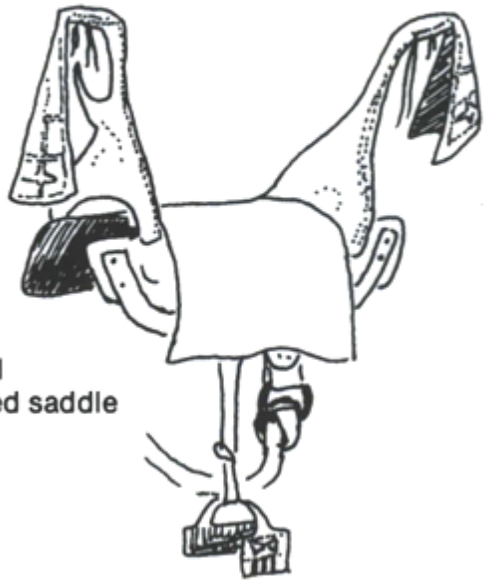
Woman's Saddle
(continued)

8. Attach latigo straps and metal cinch-ring as shown.



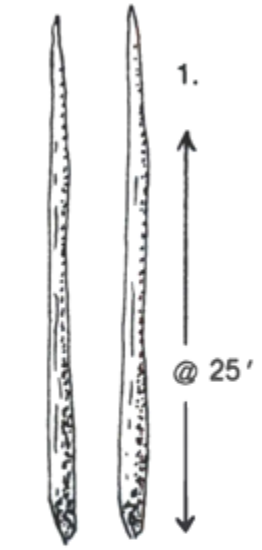
9. Saddle may be covered with buckskin over the rawhide with the same cut patterns for the rawhide. (Do not wet it.)

A pad and a small blanket are thrown over saddle for comfort.

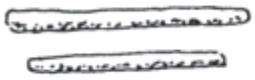


Finished decorated saddle

Travois



Two lodge poles



Crossbars

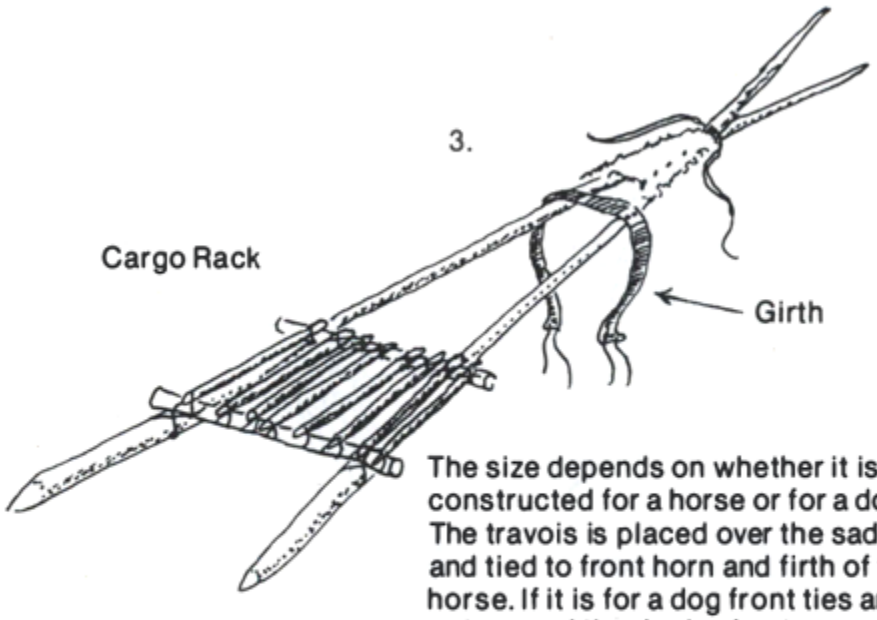
Wither Pad

2.

Slats

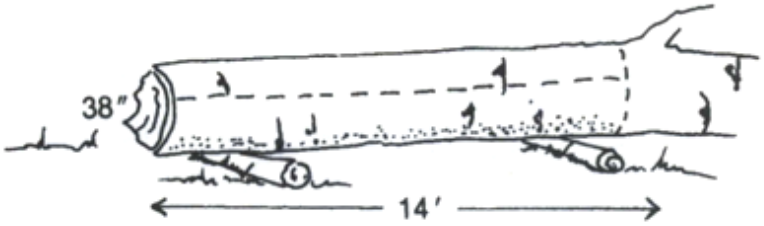
Girth Strap

Tie for Saddle and Slats



The size depends on whether it is constructed for a horse or for a dog. The travois is placed over the saddle and tied to front horn and firth of the horse. If it is for a dog front ties are put around the dog's chest.

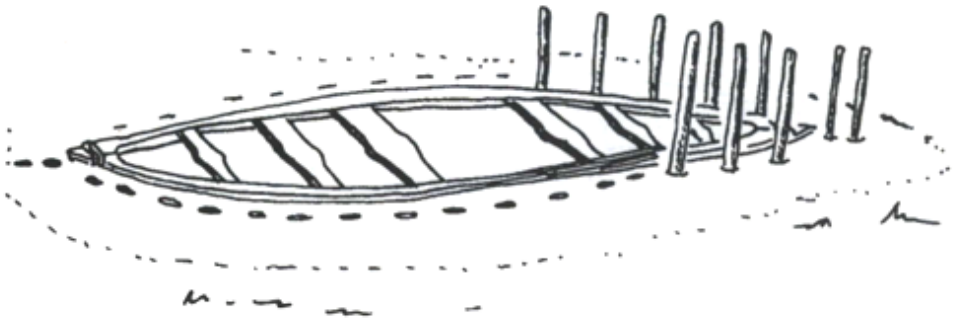
Birch Bark Canoe
(Ojibwa)



Cut bark as shown on lines.

Roll bark in direction the tree grows.

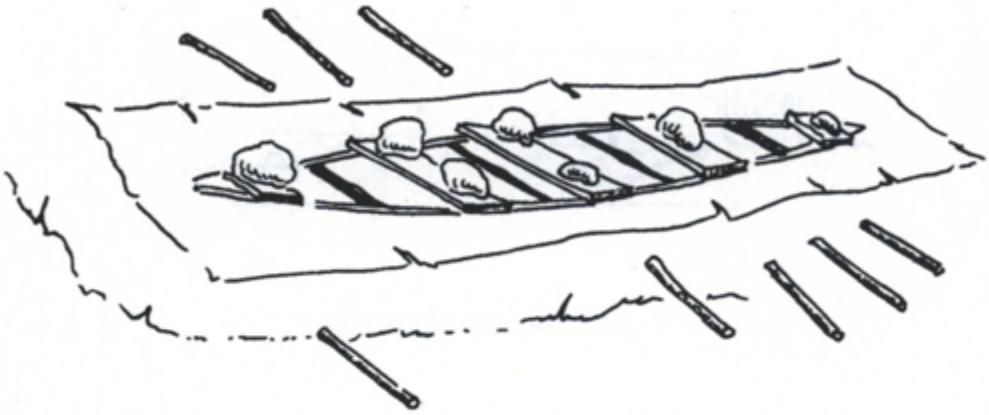
Gather spruce roots, split, roll and store in water.



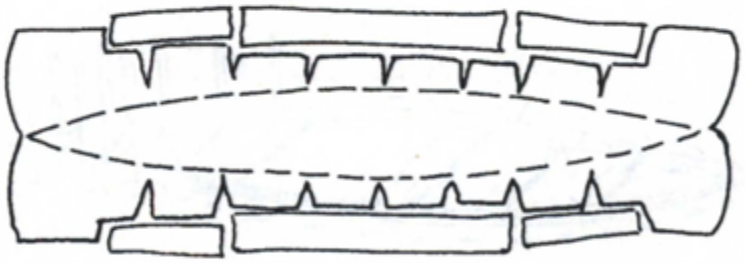
Assemble white cedar wood gunwale by notching ends and wrapping with spruce roots. Refer to size on following pages. Ground should be smooth and flat.

Set the stake supports every 20" then pull up.

Birch Bark Canoe
(continued)



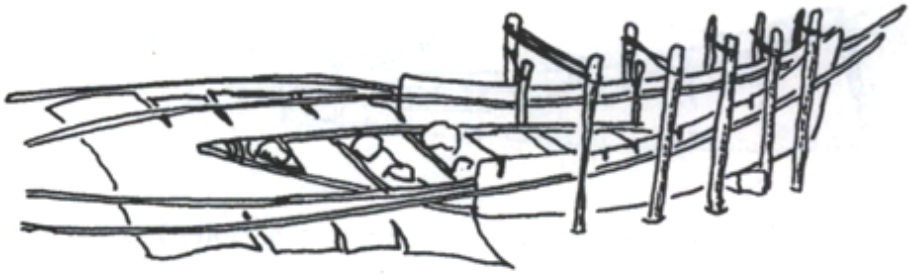
Lay bark out and set gunwales on top. Lay boards and rocks on top to weight down. Slip support poles underneath and back into holes.



Seven sections of bark and cuts to be made.

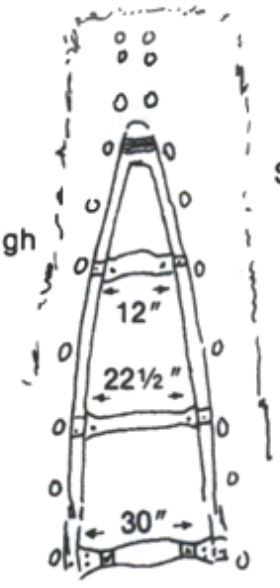
Birch Bark Canoe
(continued)

Long cedar sticks are put on inside and outside of walls then clamped together with ties.



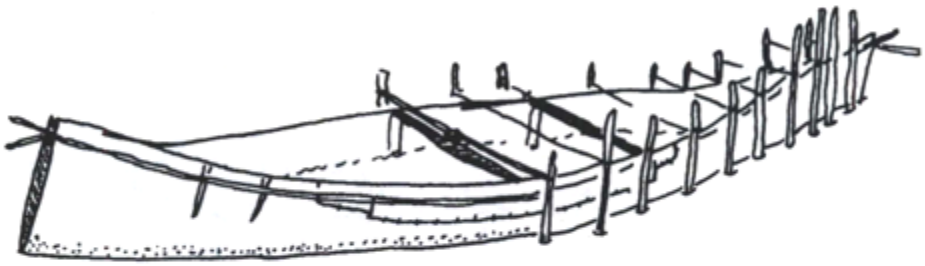
Make sure the three sections of bark are added to each side.

Each end is about 18″ high with the middle about 8″ or 9″ high.

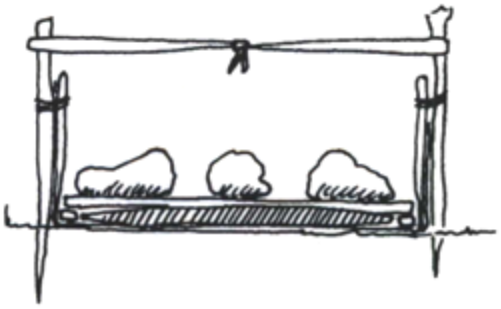


Length of Crossbars

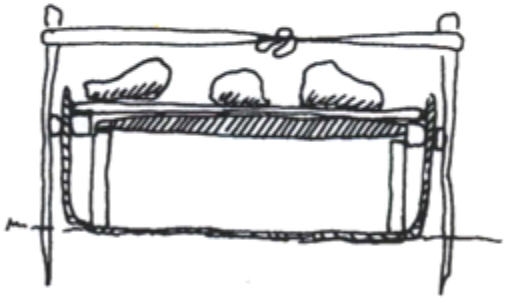
Birch Bark Canoe
(continued)



The gunwale is raised on sheering posts. Holes are punched along the edge and inner and outer gunwales are lashed together.

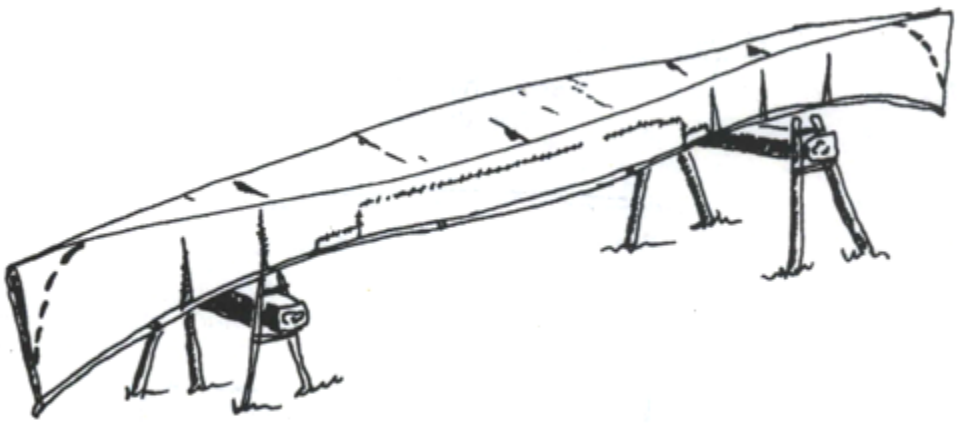


Cross section of ties
and gunwale at bottom.

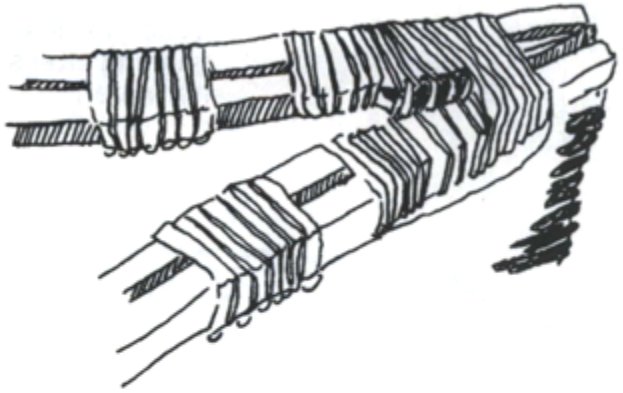


Gunwale raised with sheering posts
set under thwarts.

Birch Bark Canoe
(continued)



Canoe is taken off bed, turned over and trimmed.
Both ends are lashed with spruce root.



Lashing on each end

Birch Bark Canoe
(continued)

Cedar Sheathing
Top View

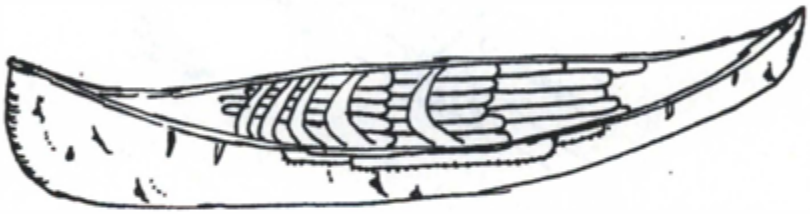
Side View Ends are tapered

Two
back boards

Two stems

Lamentation to
fit in stem

Cedar ribs shaped by
bending after soaking in
hot water.

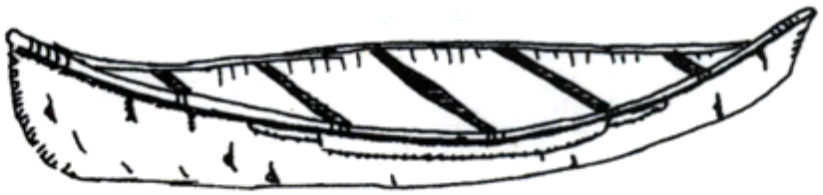


(Inner gunwale is not shown)

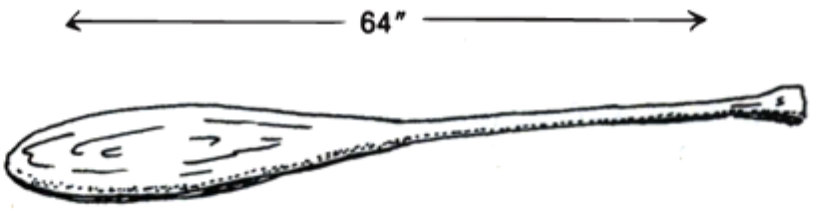
Place sheathing inside after wetting bark and place ribs in to hold down sheathing. Place lamentation, headboards and stems on each end fitting each end with shavings. Lash inner and outer gunwales.

Birch Bark Canoe
(continued)

Take spruce gum, heat, and add powdered charcoal and animal fat to temper. Apply to all seams and cracks.

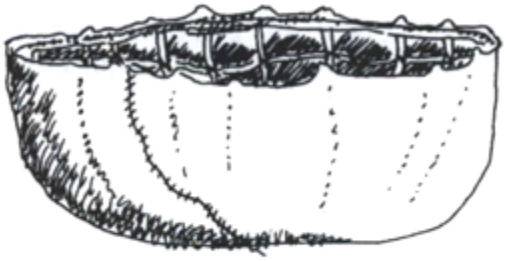


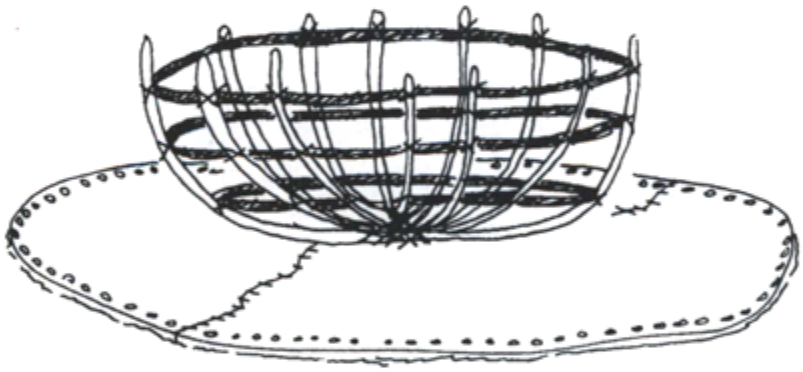
Finished Canoe



Maple Paddle

Bullboat





1. Saplings are cut to the radius of the hide or hides to be used and lashed together.
2. A green (untanned) hide or hides are cut in a circular as shown. Sew hides together if one isn't large enough. Buffalo was used but cow hide will work.
3. Burn or punch holes around edge.
4. Pull hide up around top and lace it to the top rail.
5. Let it dry and it's ready to go.

Chapter 10

Pouches, Scabbards, and Assorted Gear

One thing is for certain, no Indians walked around all day with their hands in their pockets: clothing of their time had none. Still, it was necessary for them to carry certain personal belongings at all times and that meant some type of container. Pouches were made to hold pipes, fire-starting gear, food, knives, arrows, etc. Today we aren't much different; we have purses, wallets, knife and rifle scabbards. We also use suitcases and baby carriers as well as portable chairs. Interesting to note is that these items were all in use before white man came. They just had slightly different names and containers Indians used were usually much more ornate than is today's sleek look. Some of these items will be the easiest of all the crafts in this book to make, but they are some of the most beautiful after they are decorated.

Pipe Bag

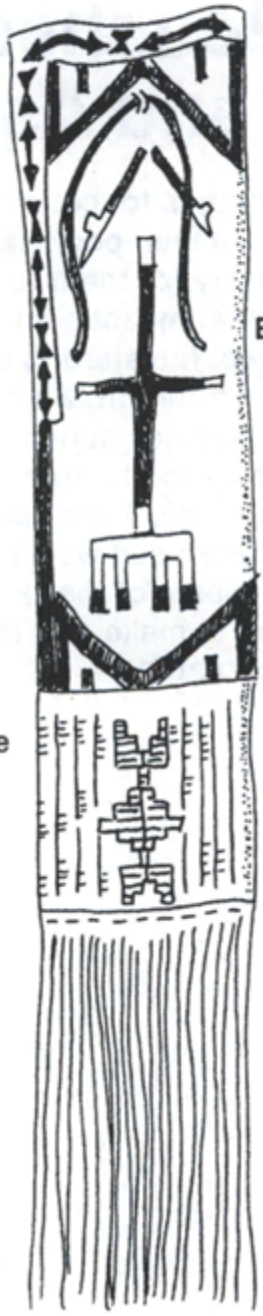
1. Fold in half.

Buckskin

16″

12″

Tie



Bead Work

2.

4″

Rawhide
Cut slits ¼ ″ wide
for quill wrap.

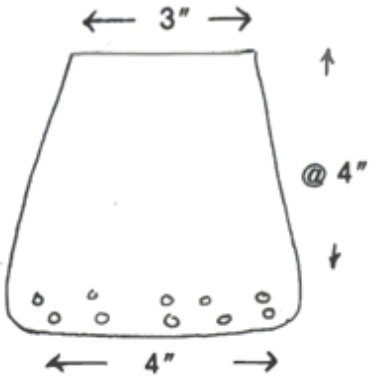
3.

Leather Fringes

6″ to 8″

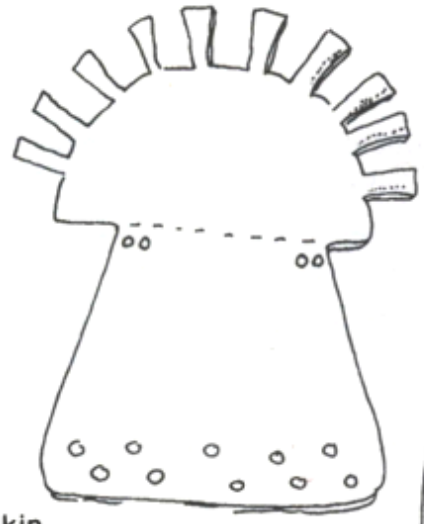
Strike-a-Lite Pouch

1.



Front

2.



Buckskin

Sew front and back together.
Add cone ties and cones
then belt ties back and lid.

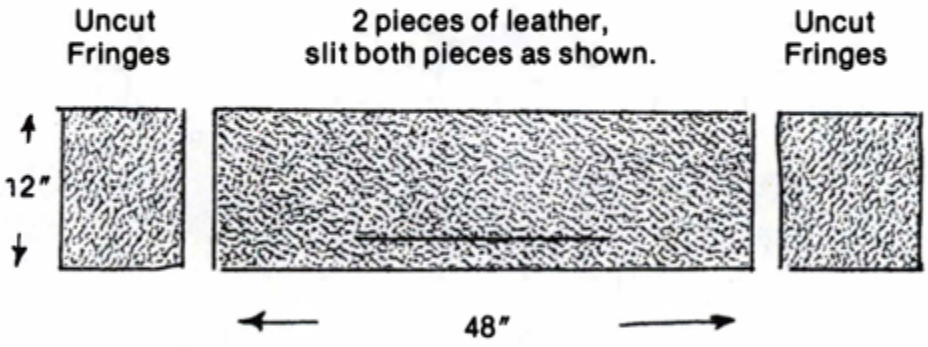
Cone Ties Tin Cones Belt Ties

3.

Arapaho

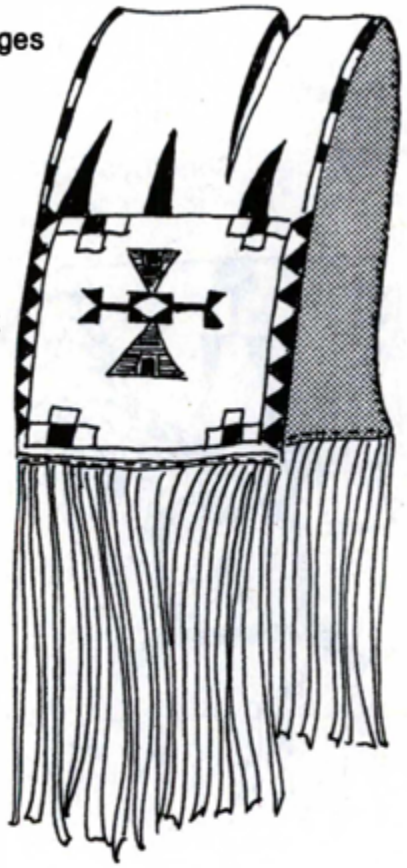
Saddlebags

1.



2. Sew outer edges only.

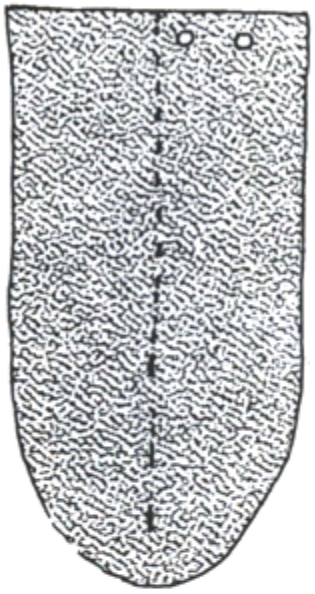
Insert belongings through slit in bag.



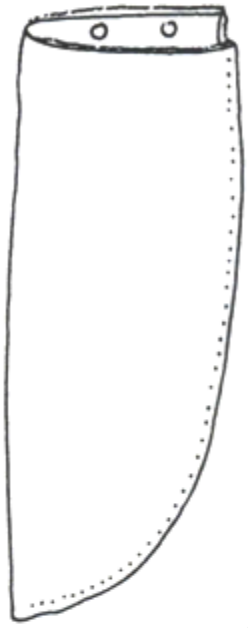
3. Cut fringe.

Knife Scabbard

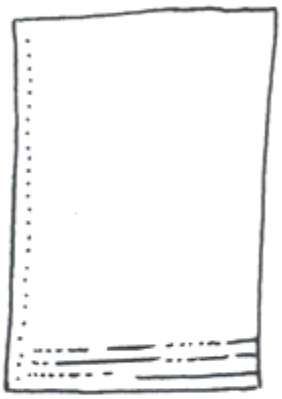
1. Cut rawhide larger than twice the width of your knife.



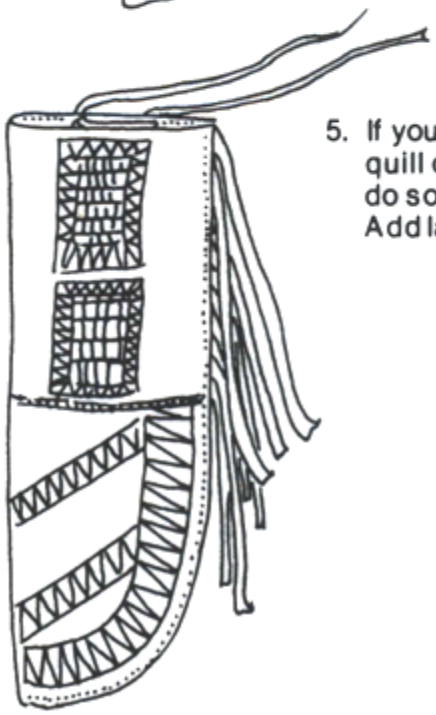
2. Cut buckskin the same size.



3. Cut section for fringe.



4. Lay rawhide on top of buckskin, fold both pieces, insert fringe section and sew together.

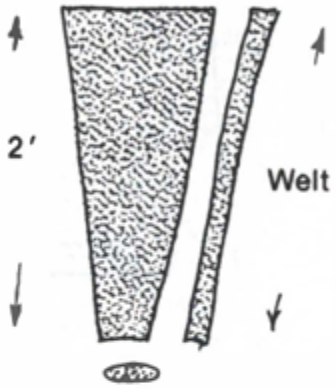


5. If you are going to quill or bead it, do so before sewing. Add lace for belt tie.

Arrow Quiver and Bow Case

Quiver

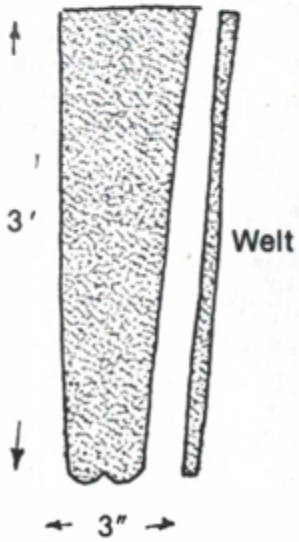
1. 10″ Cut from buckskin



2. Sew inside out.

Bow Case

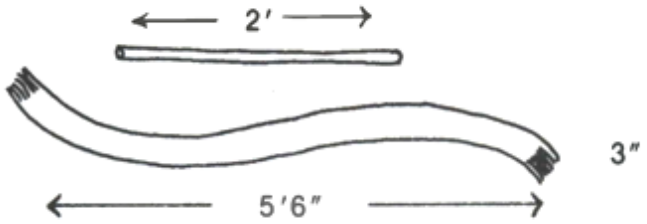
3. ← 5″ → Cut from buckskin



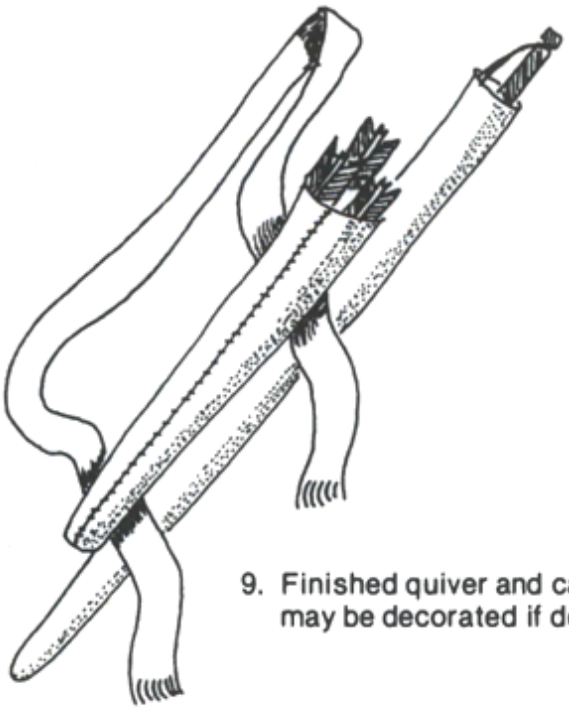
4. This must be sewn right side out.

Arrow Quiver and Bow Case
(continued)

5. Shoulder strap and stick.
6. Cut ends for fringe.



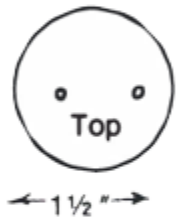
7. Place quiver in the middle of the case, mark, and lace just the quiver.
8. Place straps between quiver and case and lace case loosely. Slide stick in and pull lacing tight.

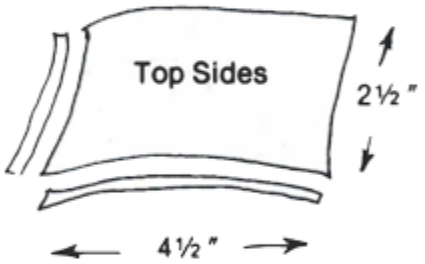


9. Finished quiver and case may be decorated if desired.

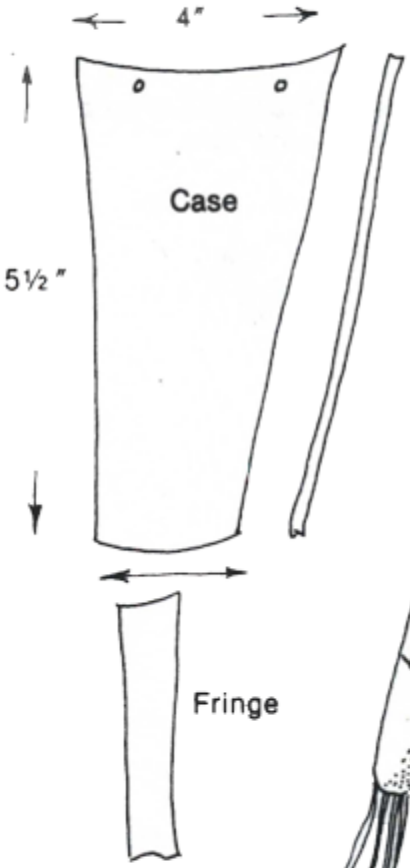
Awl Case

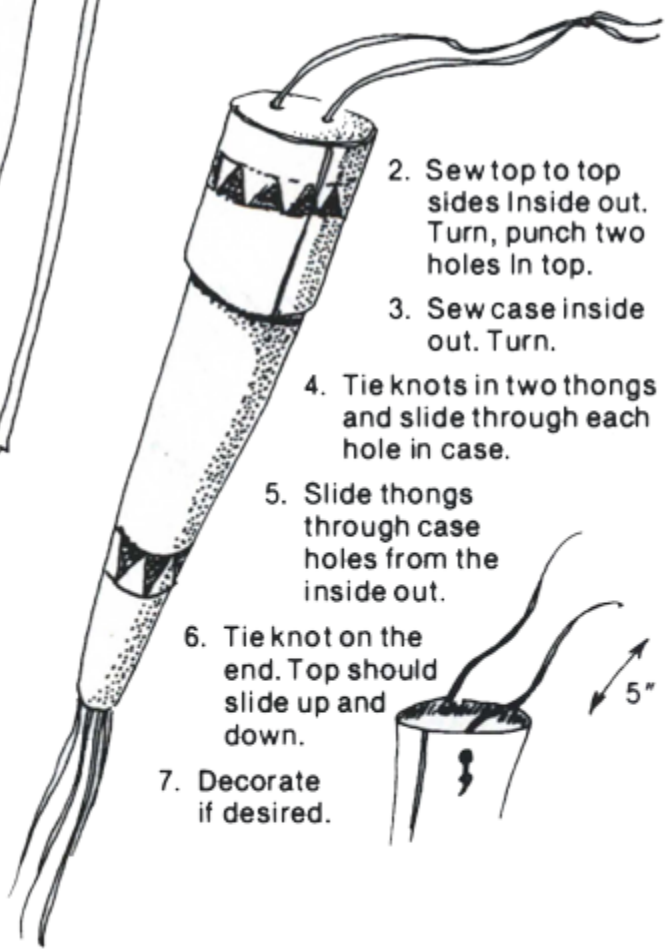
1. Cut pieces from scrap buckskin.





Welts



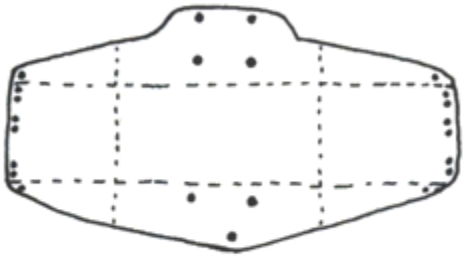


2. Sew top to top sides Inside out. Turn, punch two holes In top.
3. Sew case inside out. Turn.
4. Tie knots in two thongs and slide through each hole in case.
5. Slide thongs through case holes from the inside out.
6. Tie knot on the end. Top should slide up and down.
7. Decorate if desired.

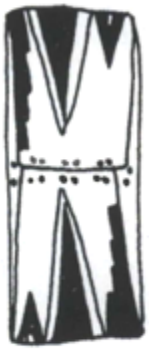
[redacted]

Parfleche Case

1. Use calf skin if possible. Cowhide is so thick it must be pounded very hard to get it to bend.
2. Cut rawhide to size you want.
3. Wet and fold. Set a board and heavy rocks on top to dry it under pressure.
4. Punch holes as shown.

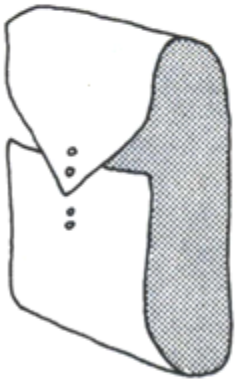


5. Lace through holes.
6. Paint geometric shapes.



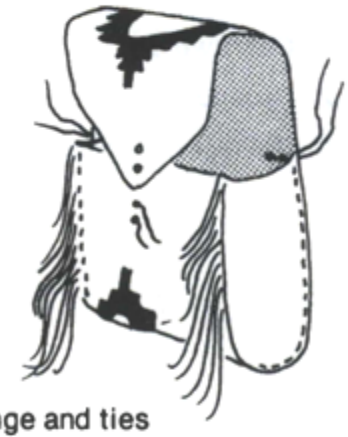
Medicine Parfleche

1. Cut dry rawhide to desired size.
2. The front, back, and flap are all one piece.
3. insert uncut fringe piece between front and side.
4. Starting at front top edge, sew straight stitch around to the back. Repeat on other side.



2 each

Side



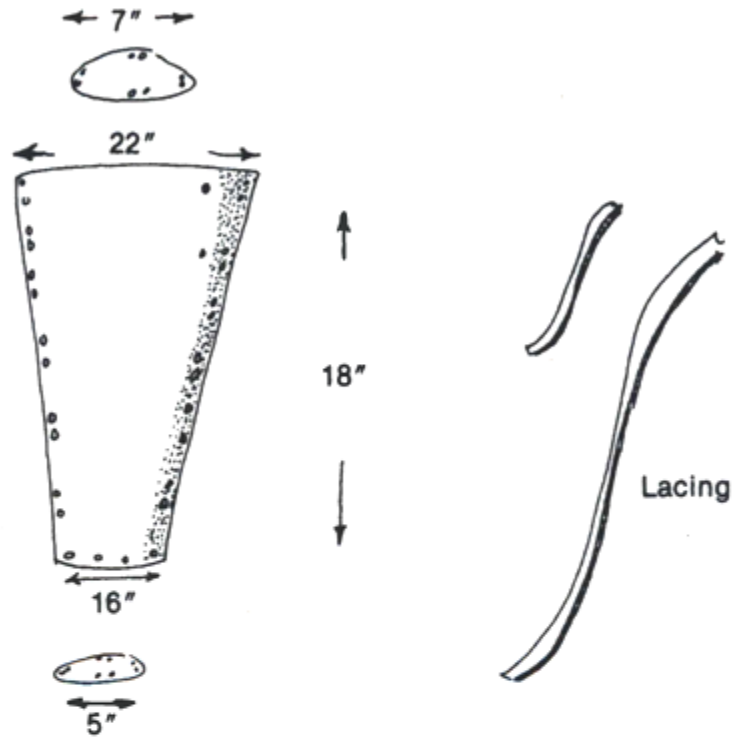
5. Cut fringe and ties and paint as desired.

2 each

Fringe

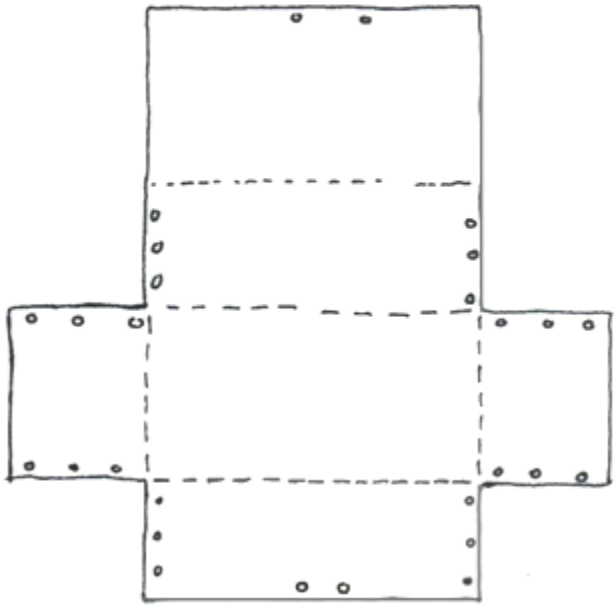
Parfleche Regalia Bag

Shoshone

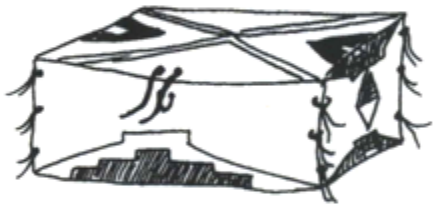


1. Cut rawhide.
2. Lace together on matching holes.
3. Paint geometric shapes.

Parfleche Box

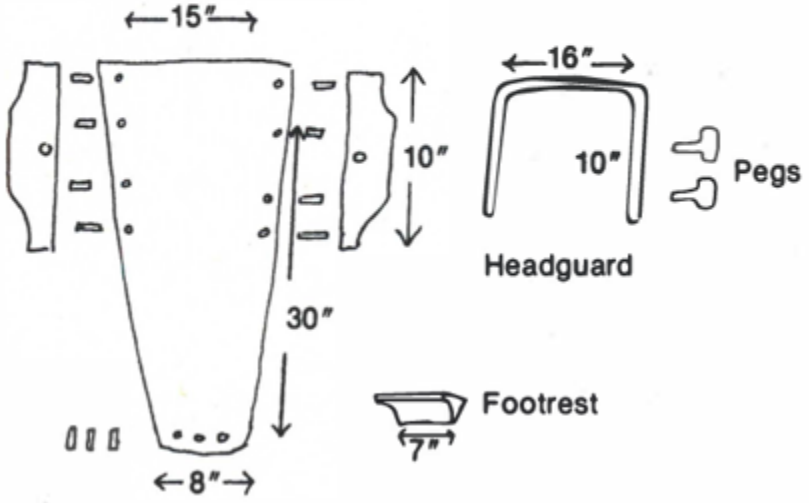


1. Rawhide boxes can be made in any size. Make a pattern on paper then cut to size.
2. Dampen rawhide to fold as shown on dotted lines.
3. Lace together at matching holes.

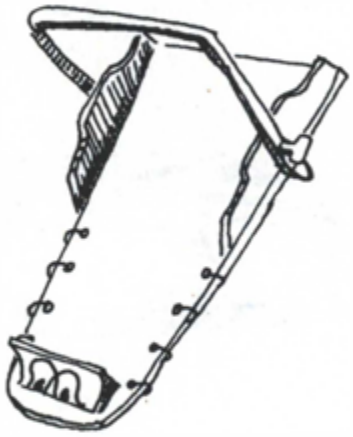


4. Decorate box with dye, acrylic paint, or leave it plain.

Baby Carrier
Iroquois

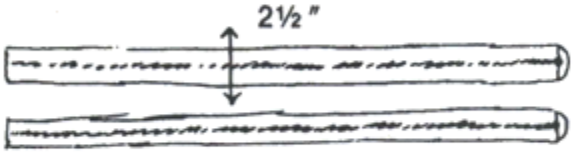


Strap baby in when new-born.
Rail is to protect head.



Ceremonial Pipe

1.



Split, hollow out pith.

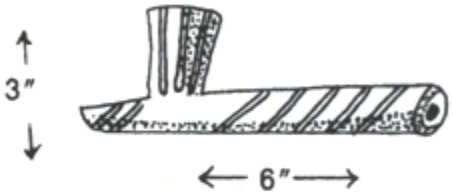
2.

Glue back together with pitch.

3.

Mouthpiece Bowl End

4.



Pipe bowl of Catlinite, Argillite, or other soft stone.

5.

Decorate with beads, carving or paint.

Willow Backrest

Indians used willow chairs in their tipis as a backrest. They are very convenient for modern use because they are easily portable. Our modern folding chairs are also nice, but they don’t exactly fit the tipi atmosphere. When choosing willows for your chair, it is important to find the type of willow illustrated on the left. They grow in large, dense stands but not in single clumps. Cut the willow at the base and strip the bark off the same day for a smoother surface. You may want to leave the bark on for design purposes. However, the stripped willows make a prettier chair. Assemble the chair after the sticks have had sufficient time to dry. It is also necessary to trim off the knobs left from the branch joints after they have dried.

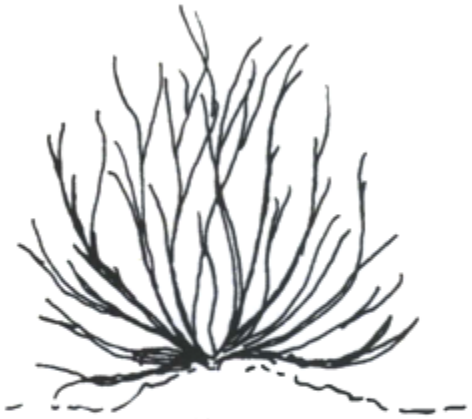
The tripod poles are made from the tips of lodgepole pine; other similar woods do as well, as long as they have the strength to hold when you put your backrest on it and lean back.

The Indians would also take two 6’ poles that are 3”-4” around, lay them down and stake them wide enough apart to lay the back rest on full length and use it as their bed by laying furs on it for cushion and it would keep them off the damp ground. This also got rid of any little rock spots that can cause misery when trying to sleep.

You may want to make them smaller. If so, just reduce the size to fit your convenience. Once you’ve got the sticks peeled, dried, and trimmed, the rest is easy and quick, taking only about a day to complete.

Willow Backrest

Right

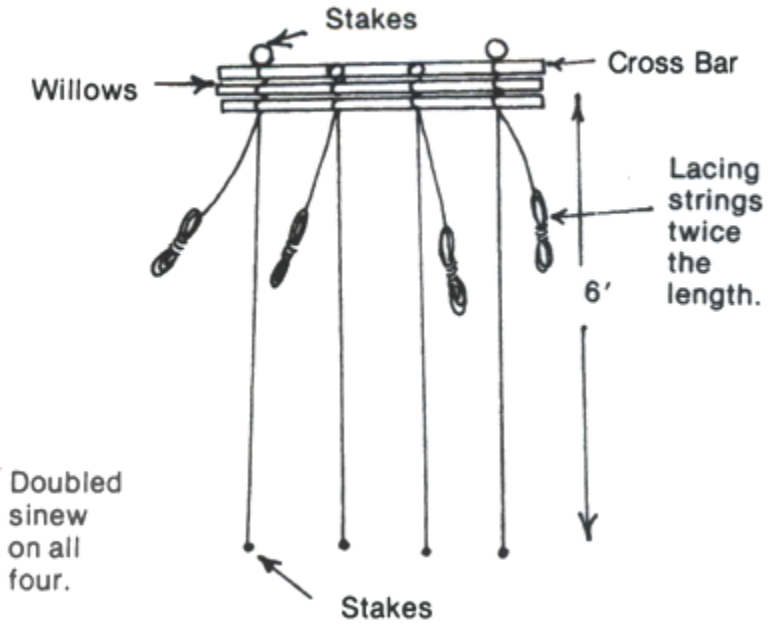


Wrong

1.

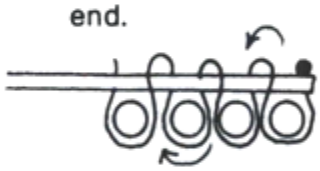
After stripping the bark, immediately after cutting, tie sticks in small, tight bundles to keep them from warping.

2. Set up to make in the field.



Willow Backrest
(continued)

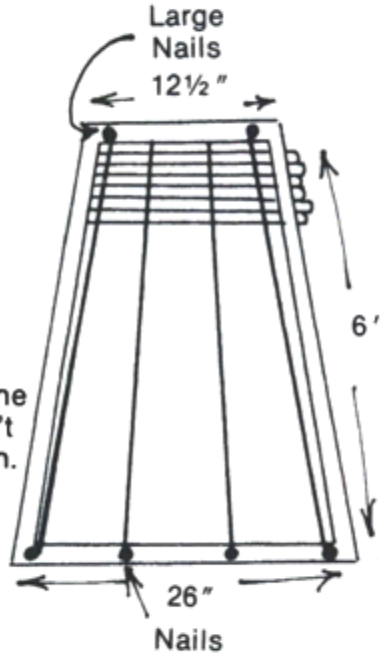
3. Place each willow with a thick end next to a small end.



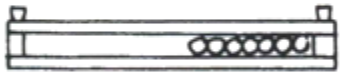
Place the willow under the stretched string, then the loose cord is tied to the first willow and pulled down, then up around the willow, over the top of the top cord and down between the willow. Repeat until finished.

4. If you plan to make a number of back rests at home, a framed setup may work best using 1" firring strips.

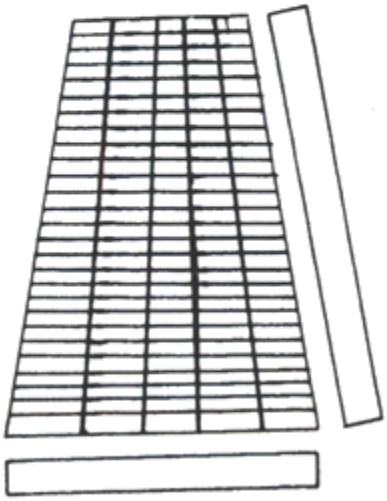
Trim off with hand saw.



This side is blocked so the willows won't slide through.



Side View



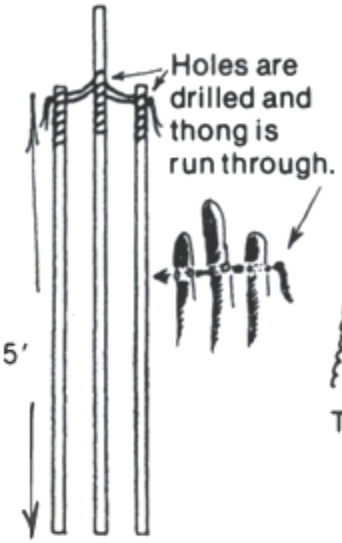
5.

Add wool trim around edge.

Fold and sew.

Willow Backrest
(continued)

6.



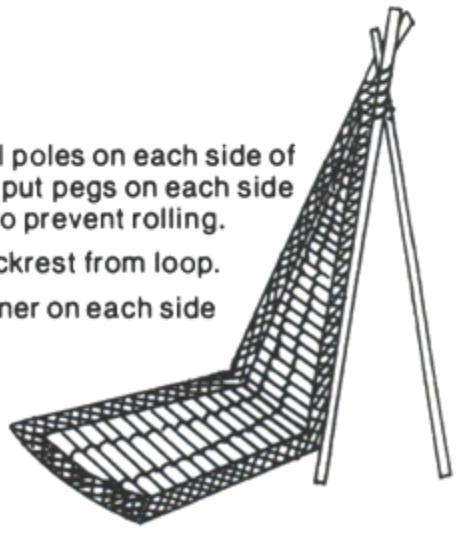
Tripod

When setting up the tripod, set poles in ground to prevent slipping.

7. Cut a leather strap out of 8 to 10 oz. leather.

Tie loop to willows with sinew.

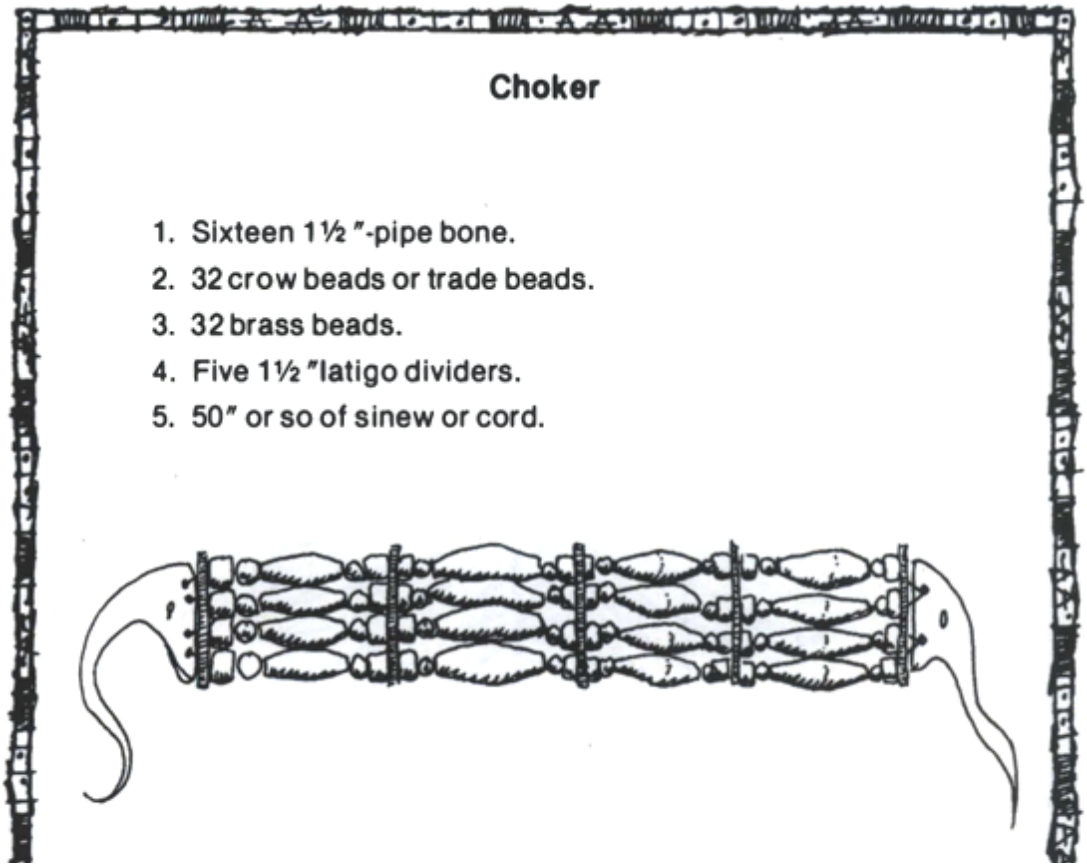
8. Set small poles on each side of seat and put pegs on each side of them to prevent rolling.
9. Hang backrest from loop.
10. Lash corner on each side to stake.



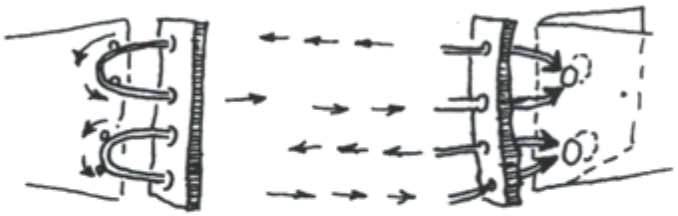
Chapter 11

Jewelry and Ornaments

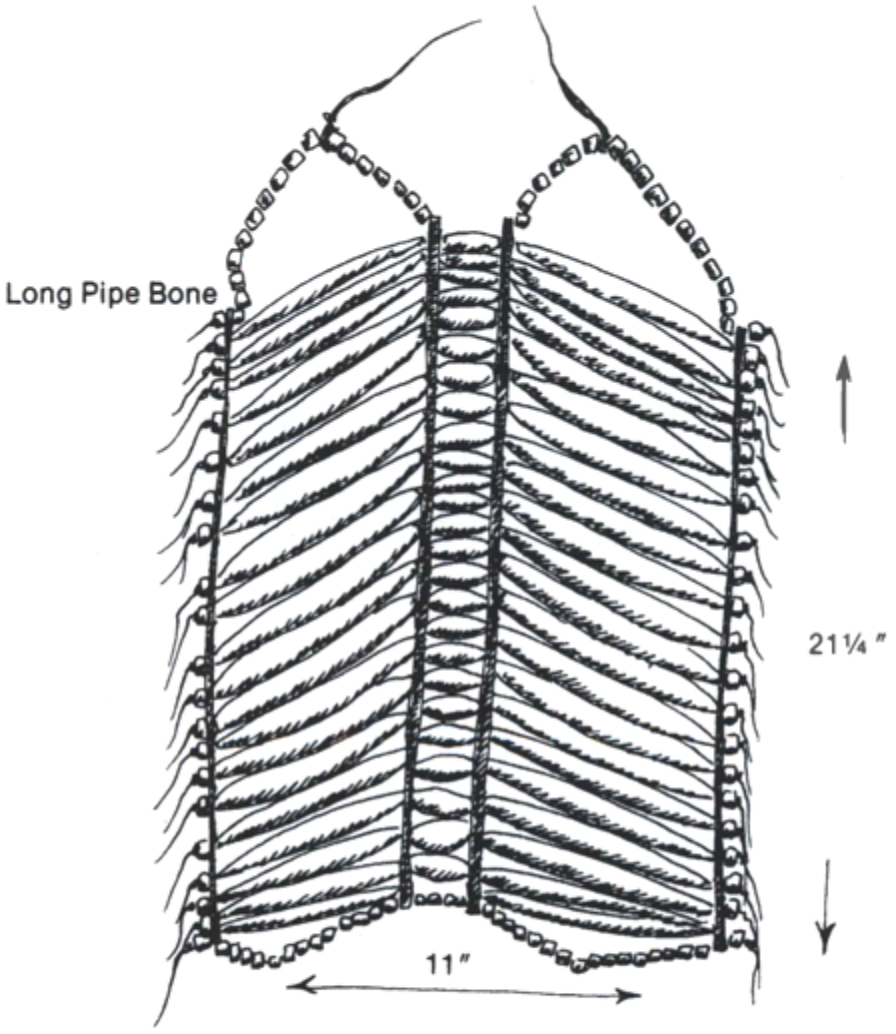
Personal adornment has been a part of every culture since the beginning of time: bone, stone, metal, and glass were turned into jewelry. The Indian has created unique and beautiful works of art from those substances. Both men and women wore necklaces, bracelets, hair pieces and earrings. Shell was collected and used by the coastal tribes, then traded with inland Indians so that seashells were used across the continent. Some of the ornaments and jewelry shown in this chapter have no instructions on how to make them, because that would require a whole book on silversmithing alone. Others are simple enough to put together just by looking at the example.


Choker
1. Sixteen 1½ ″-pipe bone.
2. 32 crow beads or trade beads.
3. 32 brass beads.
4. Five 1½ ″latigo dividers.
5. 50″ or so of sinew or cord.

6. Two 8″ leather triangular ties.
7. String the beads, bones, and dividers as shown, and tie off the ends at the larger ends of the leather ties.



Breastplate

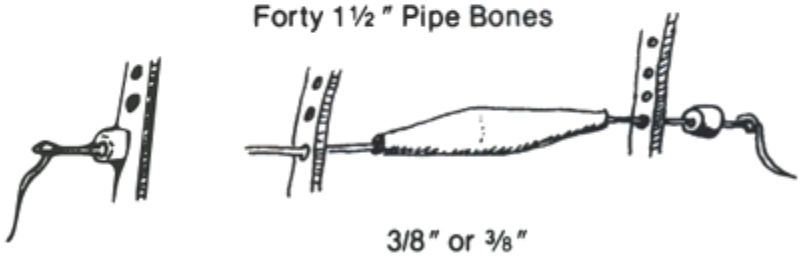


170 Crow Beads

4 Leather Strips

Eighty 4½″ Pipe Bones

Forty 1½″ Pipe Bones



3/8″ or ⅜″

Bead Designs

Morning Star

Star

Elk Hoof

Tipi

Spider

Cray Fish

Head

Buffalo Skull

Horse Tracks

Arrow Points

Dragonfly

Trails

Tipi

Rock

Leaf

Feather

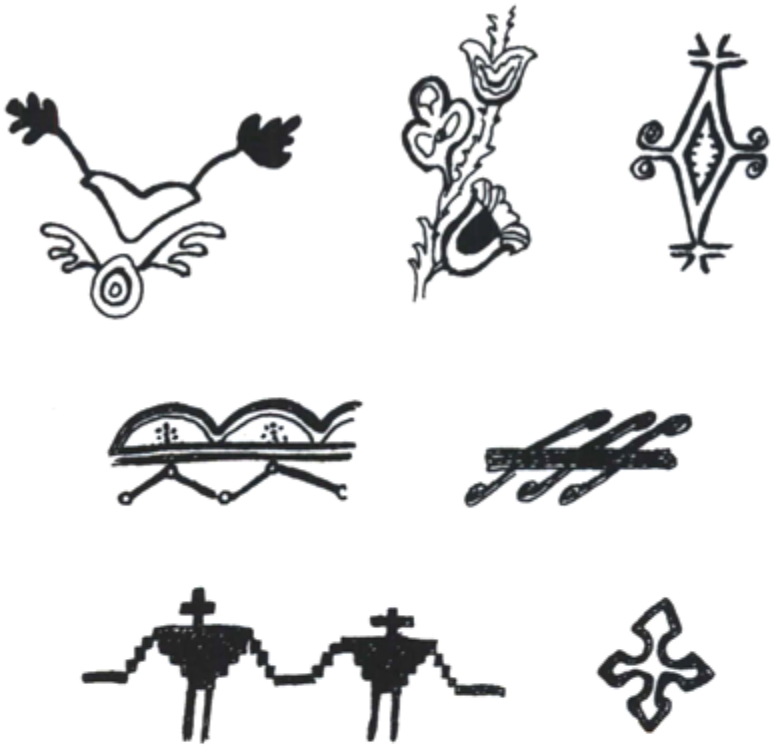
Clouds

River with Island

Lightning

Sun

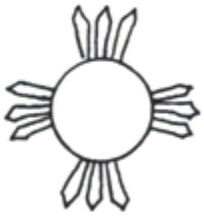
Bead Designs
(continued)



Iroquois, Micmac, Ojibwa

Lightning

Clouds and Rain



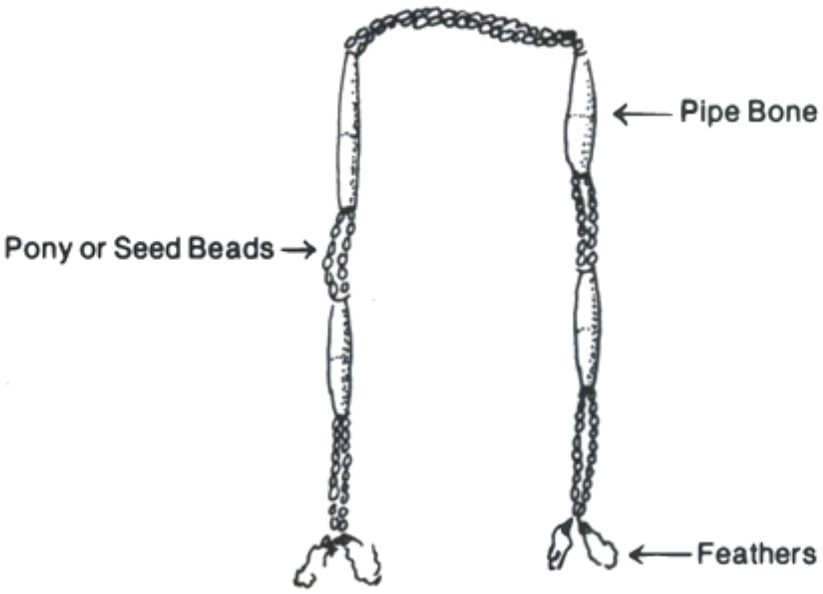
Sun

Bird

Turtle

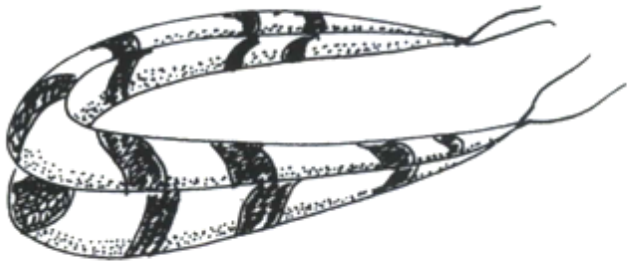
Hopi

Ojibwa Headpiece



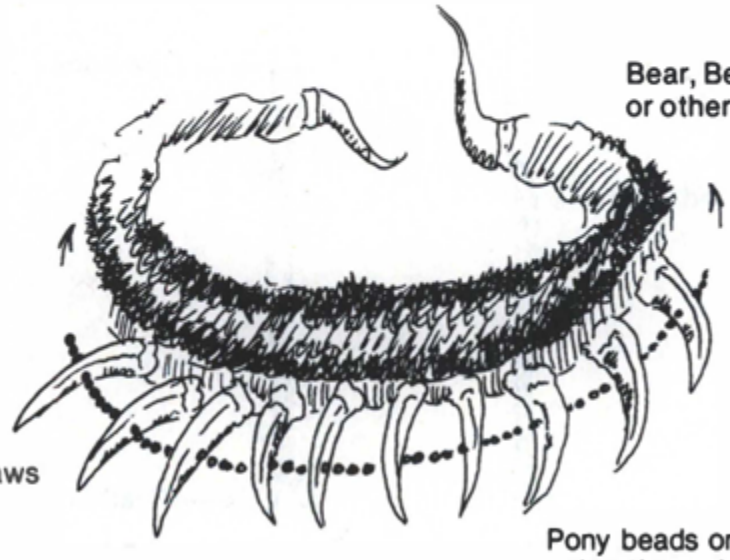
This is draped about 2″ back from hairline on top of head.

Ojibwa Choker



Choker done with seed beads around stuffed leather tube.

Hidatsa Claw Necklace



Bear, Beaver,
or other fur.

Claws

Pony beads on string
going through claws.

Hidatsa Hairpiece

Leather hair pieces placed on
each side of forehead.

Beaded and crimped in the middle.

Hidatsa Bracelet

Seed Beads

Cowrie Shells

Ponca Choker

Iowa Earring

Padre Beads

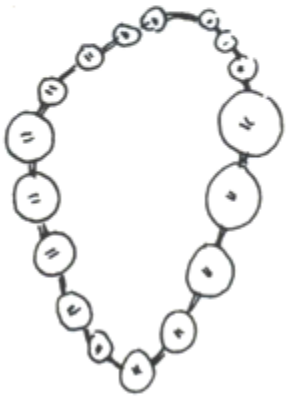
Pawnee Necklace

Iowa Necklace

Shell and Brass Beads

Chippewa Silver Armband

Creek Silver Disk Necklace



Sac and Fox
Breastplate

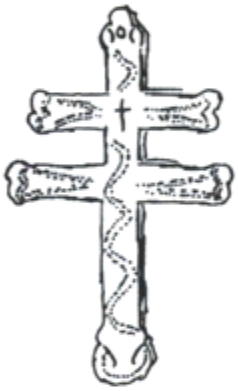
Menominee
Silver Earring

Hopi Wrist Band
Leather, Silver and Turquoise

Seminole Gorget

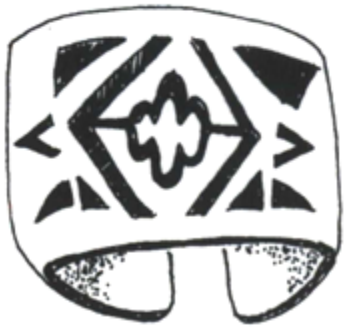
Glycymers Shell Bracelet
Turquoise Overlay
1300 A.D.

Trade Silver
1780-1820
Broochs



1760
French Cross
Pendant

Navajo Ketoh
Bow Guard
1900



Hopi Silver Overlay Bracelet

Navajo Concho Belt

Silver buckle with turquoise inlay

Nine silver disks with turquoise center inlay

Latigo or vegetable tanned belt leather

Belt End

Back of Conchos

Belt should be ½ " wider on top and bottom than the conchos.

Cut slits in belt to accomodate concho strap.

Attach concho to belt as shown.

Chapter 12

Bead and Quill Work

Beadwork dates back to Egyptian times. Glass beads were introduced to the New World in 1492. Spanish trade-beads were introduced in the southwest during explorations there and trappers from Hudson Bay Company introduced beads from the north.

About the oldest piece of beadwork known is a sash woven on a twined warp on a powder horn which was presented to General Montgomery in 1761. It contains seven thousand black and white pony beads.

Many texts say seed beads were not introduced to the plains tribes until 1840, but various sources from Hudson Bay lists, excavation sites, and the records of Lewis and Clark show that the seed bead was in use by 1805. Most tribes had trade routes from the North to South and the East to West before the white man came to the Central Plains and it was not uncommon to find articles of northwest origin in the southwest regions.

Beadwork is now known and used by almost all tribes in the United States and it is very ornate. Most tribes can be identified by the designs and patterns in their beadwork.

Hohokan
Shell and Stone
Trinkets or Fetishes

Types of Beads

½"

Old plains' area glass bead; clear dark blue and green; opaque white and red

Faceted "Russian"-type bead; transparent blue

Types of Beads
(continued)

Six-layer
yellow and black bead

Red "white heart"

Bone

Red, white, and
blue chevron
2″ and smaller

Padre bead

Opaque cobalt blue;
mandrel wound with
frequent streaks of
darker blue

Black and white
1/10″ to 1/12″ diameter
pony bead
1760

Glass Bugle Bead

Silver and Brass Beads

Types of Beads
(continued)

Polychrome Trade Beads

Red and black pony and seed beads
"Cornaline d'Aleppo" or "Hudson Bay"
1600-1700s
Light to dark-green interior.

Dentalium Shell

Crow Bead

Pony Bead, 1760s, 1/8" to 1/10"

Seed Bead, early 1700s

Squash Blossom Necklace

Pendant

Squash Blossom

Turquoise Bead

Bead Necklaces

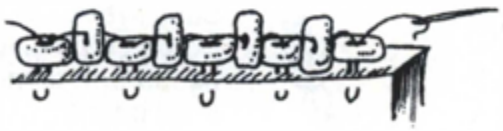
Southwest
Colbalt blue glass
beads with mimbres
shell beads.

Trade Bead Necklace

Polychrome
and Hudson
Bay beads

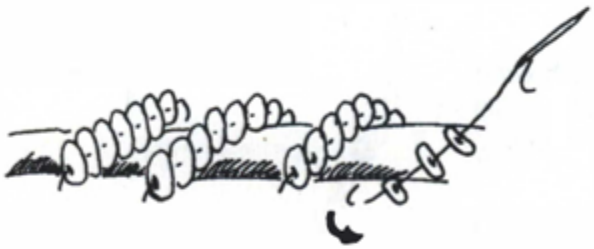
Edge Beading

This type of beading is good for trim on cuffs of shirts, edges of hats, and on moccasins. It must be done with double thread.



1. Go down into the center of the bead with the thread into the leather and back out.
2. Slide an upright bead onto the thread, then a second one and repeat step one.

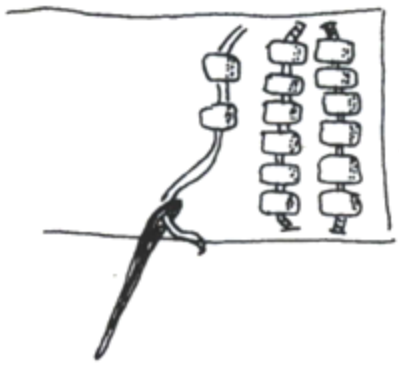
1. This is similar to lazy stitch.
2. Thread 4 to 6 beads then stitch into edge of leather and repeat.

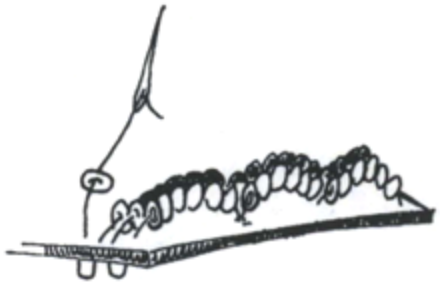


1. For a diagonal beading pattern, start off the edge and string the beads.
2. Pull beads over the edge and sew back to the original side and repeat.

Beadwork for Strips and Moccasins

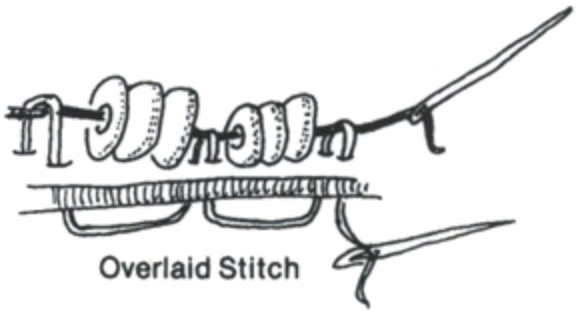
One of the most common types of beading is lazy stitch.





Use no more than six beads at a time.

1. Lazy stitch is a loose type of beadwork that can snag easily. Use it on clothing that will not receive rough wear.
2. The above two drawings show how to accomplish this. Canvas or leather strips for shoulders and leggings work best. Cut the desired length and width. Draw your pattern directly onto the strip and begin to bead keeping stitching even.

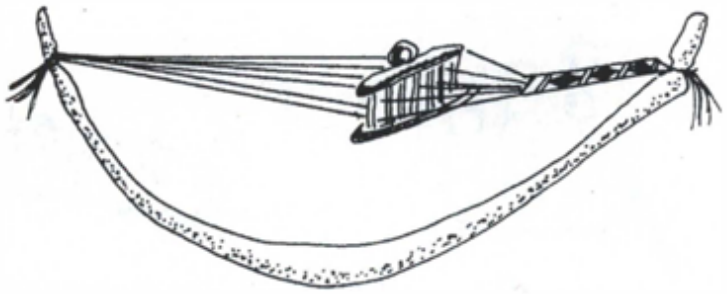


Overlaid Stitch

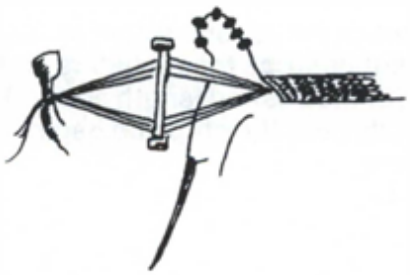
1. This type of stitching is much tighter using 3 beads each time.
2. Use 2 needles, one to thread the beads and one to stitch them down as shown.

Chippewa Cross-Warp Bead Weaving

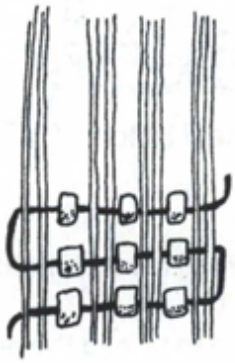
1. Warp strands are stretched on the bow.



2. Cross-warp is separated by the wooden heddle for insertion of beaded weft.



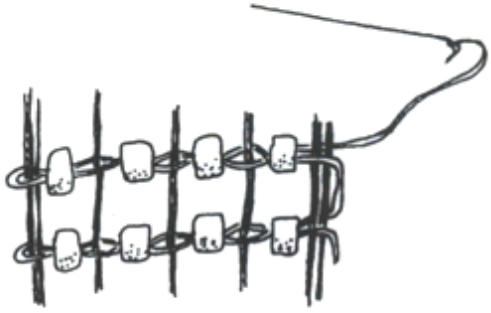
3. Close up of cross-warp weave.



This type of bead weaving was introduced by the Europeans.

Double-Weft Bead Weaving

1. Warp strands are stretched on a common bead loom.
2. Pass one weft strand through beads above the warps.

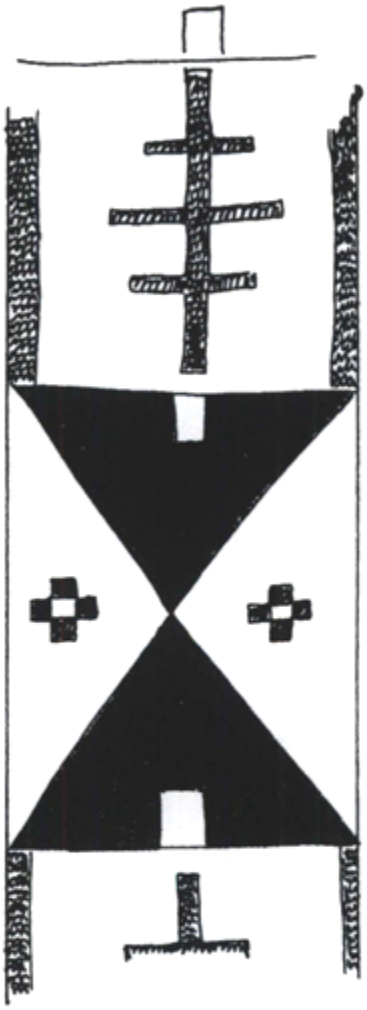


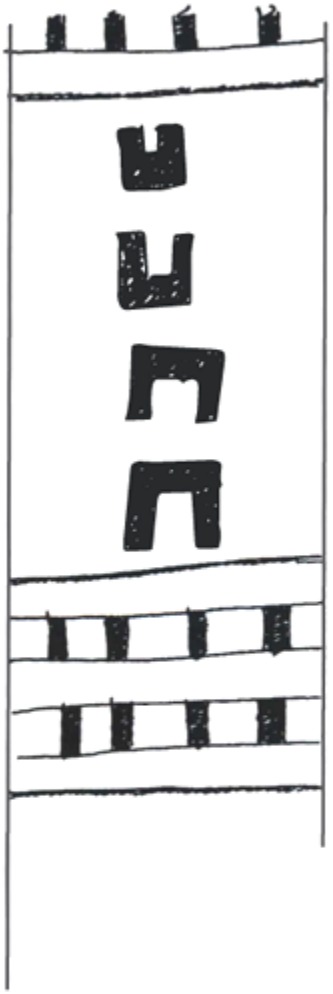
3. Come back through on the bottom.
4. Always set up an even number of warps so that the point or center of a design may be one bead.

Lakes Area

Spot-stitched patterns were done in concentric rows of shaded colors.

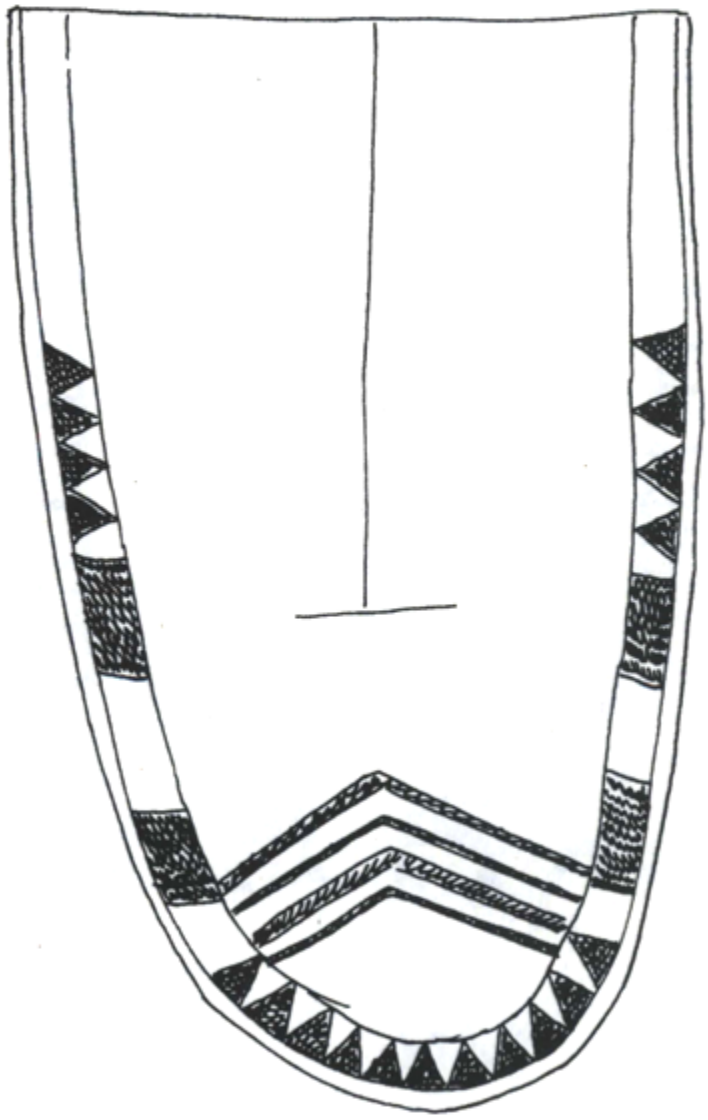
Bead Strip Designs





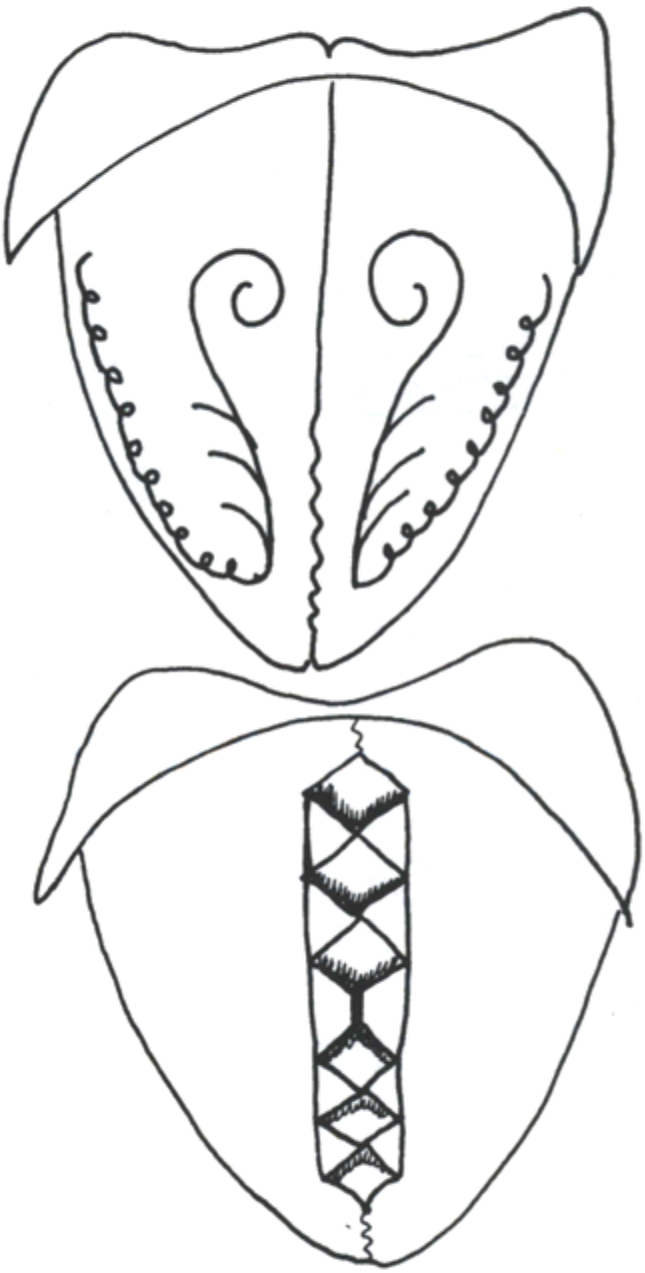
Bead strip designs can be created by you, using the characters on the bead design pages. Make the strips as wide and as long as you desire.

Plains Moccasin Bead Design



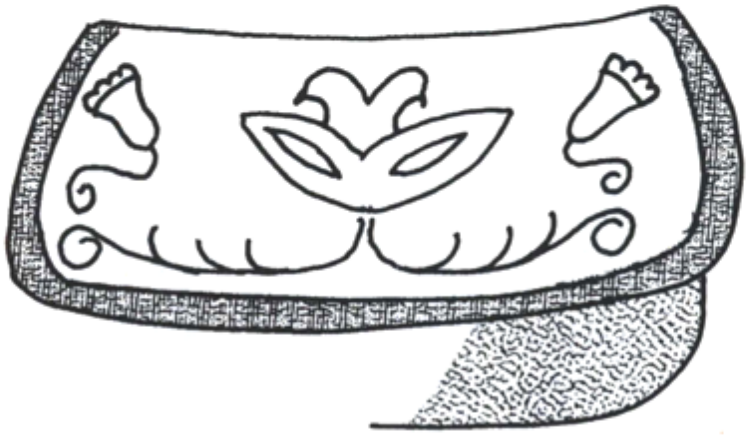
Plains Moccasin Bead Design
(continued)

Woodland Moccasin Bead Design

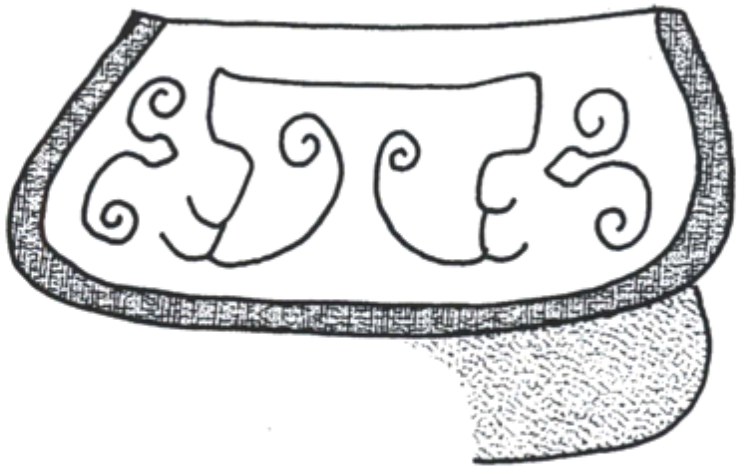


Toes

Woodland Moccasin Bead Design
(continued)



Side View



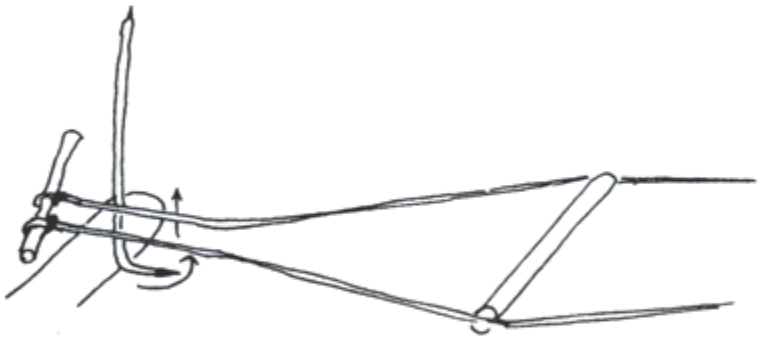
Porcupine Quill Work

This work of fine decoration was distinctively done by the Indian. Style and application were different according to the locations of the tribes. The eastern tribes spread their works to the plains and then the plains tribes developed their own technique and created very beautiful geometric designs. The northeast tribes used single-thread wrap that resulted in fine colorful lines. The Cree wove their quills in such a way as to look like bead work.

Good Indian-craft stores will carry quills for sale or you may have to go to a Rendezvous or Pow Wow to buy them. If you are near an area where porcupine live, you can throw a large burlap bag on top of a live one, retrieve the bag and pick the quills out of it. Some states allow you to hunt porcupine and the meat and claws are useable as well as the tail of which a hair brush can be made.

Quill Plaiting

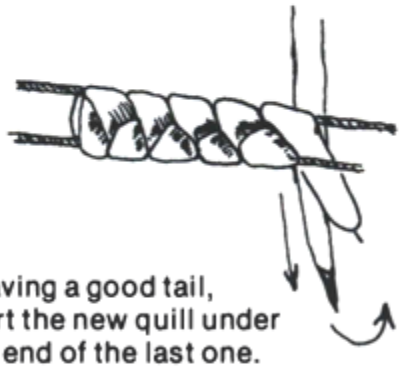
1. Use two parallel threads tied to article to be wrapped.
2. Tie other end to a small stick.
3. Use about a 2″ spacer-stick to keep threads taut.



4. Slip softened quill between finger and threads as shown.
5. Pull black tip between threads, leaving plenty of tip.

6. Pull other end over and under.

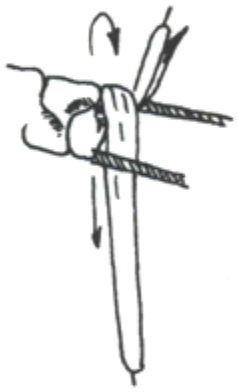
7. Continue the over and under.



8. Leaving a good tail, start the new quill under the end of the last one.

Quill Plaiting
(continued)

9. Tuck both short ends under.



10. Bring long end over and under and continue.

Quill Applique

1. A single thread is sewn into the leather, over the quill, and into the leather again.
2. The thread is sewn at a short interval and the quill wrapped over it.
3. Continue until finished.

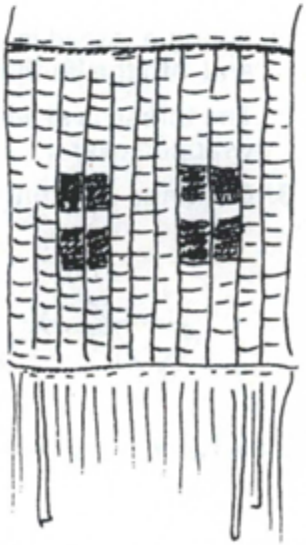
The quill is twisted and then sewn between as shown for another way.

Quill Wrapping

1. Start with flat quill moistened on back of rawhide strip. Lay blunt side down, take pointed tip and begin to wrap around.

2. When enough is left to tie off, begin with tail of new quill and wrap last tip around it.

3. Front side should look like this. It is said that this is the easiest of the quillwork methods.

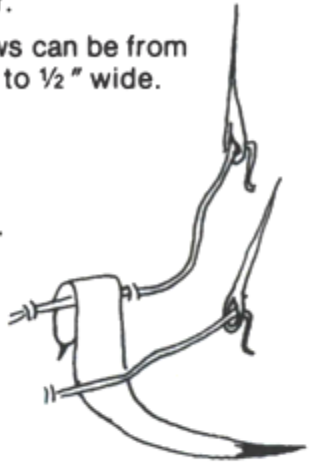


4. Section of quillwork between pipe bag and fringe.

Two-String Quill Wrap

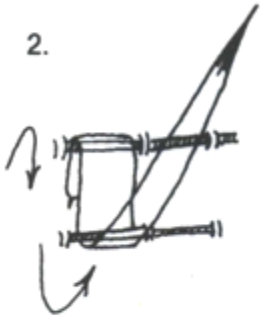
1. Draw pattern on leather.
2. Rows can be from ¼ " to ½ " wide.

1.



3. Start top and bottom thread along the drawn lines.
4. Lay quill down, sew over top and fold quill down.
5. Sew over top again and fold up.

2.



Note: Dampen quills and flatten with teeth, fingernail or flattener.

6. Continue. Slip new quill under one and fold up.

3.

7. Keep quills tightly together.

4.

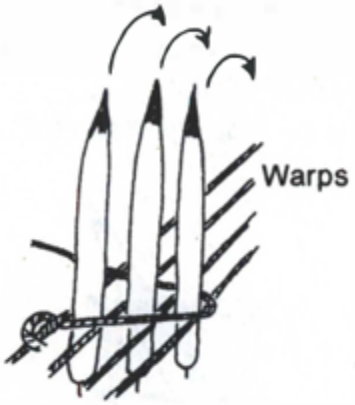
Loom Quill Work

1. Use either a bead or a bow loom.

2. String up and cross over at least five times with thread.

Loom Quill Work
(continued)

3. Dampen quill and set as shown.

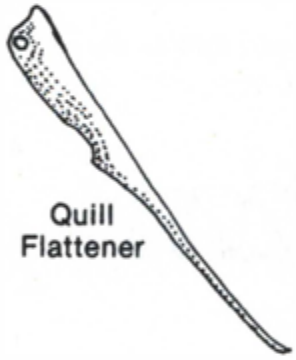


Side View

Cut end off.
Slide over tip
for new quill.

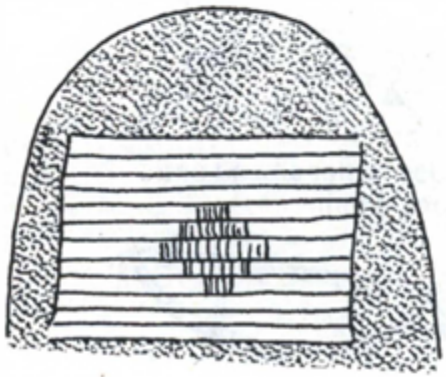
4. Pull weft under quills.
5. Fold quills down over weft.
6. Pull weft across. Pull quills up. Repeat. Cut end off. Slide over tip for new quill.

Top View



Finished
Row

Top of moccasins with drawn pattern for quillwork.



Quill Dying

The Indians used dyes to color their quills derived from plants such as bloodroot, wild plum bark, blueberries, butternut, green hazlenut, alder, goldthread root, walnut juice, the root and bark of mountain mahogany and clay for yellow ochre to name a few. Today most quills are dyed with commercial dyes such as Rit.

To dye, clean the quills with a good cleanser. Make a mixture of a spoonful of sugar in about one-fourth gallon of hot water and about one-eighth bottle of liquid dye. Add the quills and heat over a low flame until the quills are colored to the shade desired. Rinse them off with cold water and store them in a container with a lid. You may want to separate the quills according to size to make your quilling easier. Always remember that quills can cause great pain if you step on them or sit on them so be careful not to leave any lying around.

Chapter 13

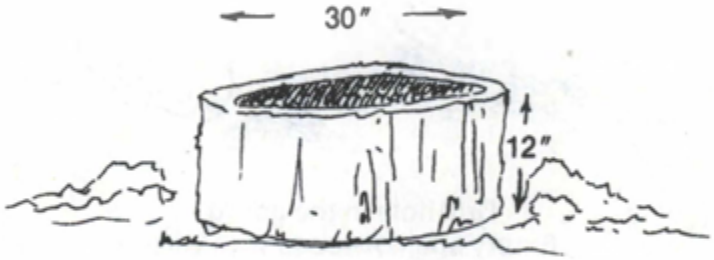
Musical Instruments and Games

No life is complete without games and music even in the harshest society and its surroundings. The Indians made games of bone, wood, and leather. Stories were told to carry on traditions not only because of the lack of a written language but for their sheer enjoyment of good tales. These tales were often sung.

Games were not just for children, but for adults as well. Betting was a serious enough sport that it was not uncommon to lose a wife or a horse in wagers on the games. (I would suggest you don’t go that far!) Tops and buzzers, which many suppose to be fairly modern toys, were used by the Indians many years ago.

Musical instruments were used for dances, singing, and ceremonies. Various types of drums, rattles, maracas, and whistles were used together to create a rhythm somewhat different from our music of today. Rattles, drum, and whistle are illustrated here for your use.

Drum

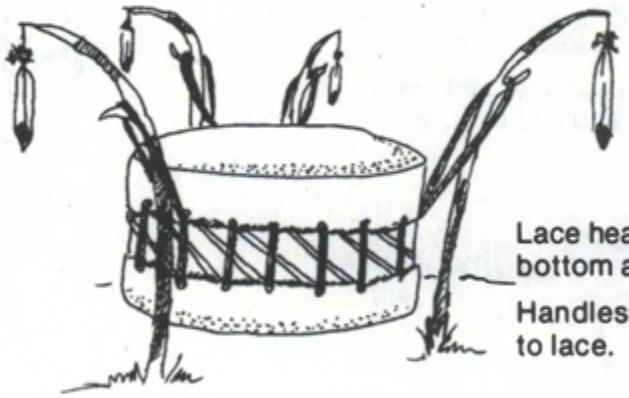


Carve out the center of a cottonwood section.
Leave 1½ ″ thick around the edge.

Drum Stick

2 rawhide pieces for
top and bottom.

Sapling drum
stands about
48″ when
straight.



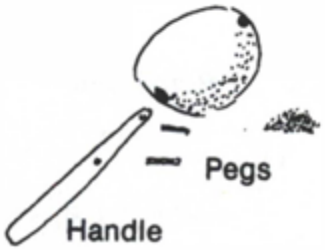
Lace head and
bottom as shown.

Handles hooked
to lace.

Gourd Rattle

Different types of gourds

Drill hole in the gourd.
Empty shell of seeds with wire.
Drill hole on top.
Fill with sand.



Assemble; put pegs in top and bottom.

Turtle Shell Rattle

Rawhide lace open end

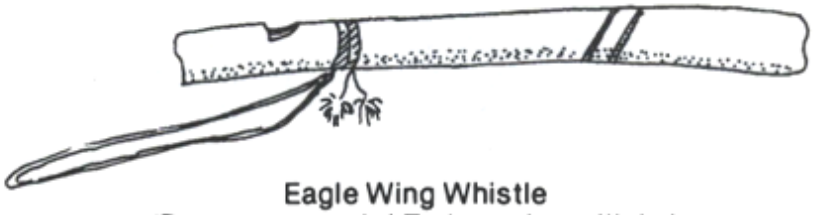
Clean out shell. Fill with alum and salt to cure.

Lace Handle

Fill with sand.

Cut wooden handle to go on neck.

Bone Whistle



Eagle Wing Whistle
(Do not use eagle! Turkey wing will do.)

Cut slot as shown.

1″

Fill ½″
with pitch.

Fill small section with pitch.
Leave hole for air.

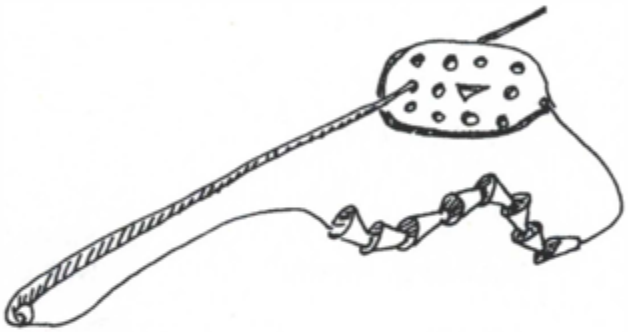
Cross Section

Front View

Ring and Pin Game

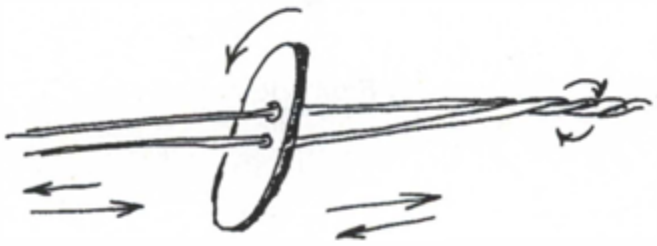
Cree, Kawchodinne, Sauk and Hupa

This game is played by holding pin in hand and flipping the leather tab and horn ends or dew claws up seeing if you can snare an end as well as a hole in the tab. The center hole is the highest point.



Buzz

This is a whirling device made of shell, wood or antler. Two holes fairly close together are drilled then twine or sinew is passed through them, and the end tied off making a loop on each end to pass the fingers through. The disk is flipped around till the string is twisted, then pulled in and out. The disk will whirl.

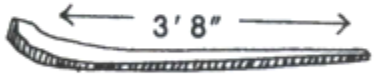


Snow Snake

This is a winter game. Each player has one throwing stick.

1. Grasp throwing stick's small end with thumb and three fingers, placing the fourth finger on the end.
2. Throw below waist.
3. Pack snow to make a long trough or throw it on the ice.
4. The winner throws his stick the farthest.

Teton Dakota

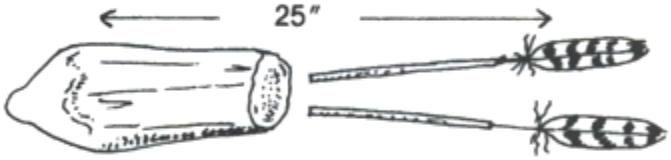


Front

Flat or Rounded Bottom

Seneca

Snow Dart



Cheyenne, Kiowa, Oglala, Mandan

Forefinger is placed between the two feather sticks with the thumb and middle fingers on each side. It is thrown on ice or packed snow with a forward thrust. Greatest distance wins.

Hoop and Pole

Chipewa, Gros Ventre, Apache, Pawnee, Cheyenne, and Arapaho

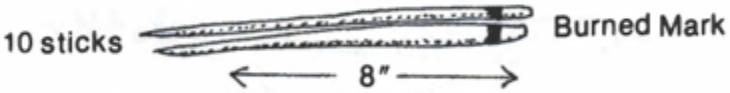
← 26″ →

The hoop is thrown forward on the ground and the player throws the pole at the hoop trying to snag it. The center can count as the highest points and the outer as the lowest.

10″ diameter

Hand Game

4 Bones



1. Two teams are chosen with two captains.
2. Each captain has one marked bone and one plain bone.
3. Teams sit across from each other with sticks in the middle.
4. The captain of one team will quickly exchange the two bones in his hands. The opposing team member tries to guess which hand holds the unmarked bone.
5. If he is correct he gets a stick.
6. Usually a series of twelve games is played.

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4999 Packard Dr.
Box 24305 H H BR
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All Supplies

Indian Ridge Traders
P.O. Box 869
Royal Oak, Michigan 48068
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Prairie Edge
P.O. Box 8303
Department BR
Rapid City, South Dakota 57701
Finished Craft Items

Four Winds Indian Trading Post
St. Ignatius,
Montana 59865
Supplies, Moccasins

Little Bear Tipi Pole Co.
Star Rt. 1
Libby, Montana 59923
Tipi Poles

Spring Valley Lodges
7706 Orion, Dept. B
Loves Park, Illinois 61111
Tipis

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Four Seasons Lodges
4221 Livesay Road
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Tony and Kay's Trading Post
158 East 7500 South
Midvale, Utah 84047
Supplies

Eidnes Furs
Rt. 4, D Box 14, Dept. BR.
St. Maries, Idaho 83861
Furs, Hides

Lown's Costume
2524 North Campbell Avenue
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Supplies

MHF
Dept. BK, Box 8918
Moscow, Idaho 83843
Furs, Hides

Grey Owl
113-15 Springfield Blvd.
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5021 Mud Bay Road
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3555 Upper Gold Creek Road
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Eagle Feather Trading Post
706 West Riverdale Road
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Craft Supplies

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Quills
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East Brigham City, Utah 84302
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P.O. Box 308
Emory, Texas 75440
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133 “P” Street
Salt Lake City, Utah 84103
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Fox Valley Leathers
633 West Center
North Salt Lake, Utah 84054
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Rocky Mountain Archery and Taxidermy
9119 South 150 West
Sandy, Utah 84070
Furs, Leather

If there are any questions or comments you would like to bring to my attention, please send to:

David R. Montgomery
337 East Holly Circle

Sandy, Utah 84070

Glossary

Anasazi	Southwest tribe, extinct.
Applique	Sewing beads tightly to material.
Arrow	Projectile shot with bow.
Arrow point	Stone or metal point inserted in shaft.
Arrow shaft	Portion that holds the fletching and point.
Atlatl	Bar for throwing spear.
Beaming Tool	Implement to flesh hides.
Billet	Elk antler used for knaping stone for points.
Birch bark	Bark of the birch tree used for dwellings, boats and boxes.
Blow gun	Hollow tube used to blow a dart at object.
Bone awl	Sharpened bone for leather hole punching.
Bonnet	Feathered Indian hat.
Bow	Sinew-backed slender wood strung to shoot arrows.
Bow drill fire	Fire created by friction sticks.
Braining	Process of applying brain to hide for tanning.
Breast plate	Bone or bead rows tied in rows hung from neck.
Breech clout	Strip of cloth or leather worn between legs.
Buckskin	Tanned hides of deer.
Bull boat	Cup-shaped boat of hide and saplings, hard to steer.
Calico	Small flower-patterned cotton material.
Canoe	Boat with tapered vertical flat ends.
Cantle	Back portion of saddle against your seat.
Capote	Wool coat made of wool.
Cedar posts	Poles of the cedar tree used in pit dwellings.

Chevron bead	Striped glass bead.
Choker	Necklace tight against neck.
Cinch	Strap tied around horse to keep saddle on.
Clavical	Shoulder blade of animal or man.
Clove hitch	Type of knot to tie tripod poles of tipi.
Concho	Metal disks usually of silver to make belts.
Dew cloth	Liner of tipi essential to draw air.
Door Flap	Covering for tipi door.
Duck canvas	Rough thick cotton cloth.
Ermine	Same as the weasel only with winter coat.
Fat scraper	Sharpened bone to remove fat from hide.
Fetish	Small carved figures.
Fire pit	Heating and cooking source of Indian dwellings.
Fireboard	Spindle is driven into it by bow to create spark.
Flaking	Chipping points.
Flap poles	Two poles to stretch out smoke flaps.
Fleshing	Removing fat and meat from hide.
Fletching	Split and cut feathers for arrows.
Fringe	Thin strips cut to hang on clothing and bags.
Girth	Strap to tie down travois around horses chest.
Gorget	Crescent-shaped metal neck piece.
Gourd	Round shaped vegetable from vine used for cups and rattles.
Graining tool	Notched tool to work hide.
Green River	Knife made by said company.
Gunwale	Inner and outer wood trim.
Hammer stone	Stone held with fingers or handle for hammering.
Hands	Guessing game with sticks and bones.
Hawk	Small axe for throwing and cutting small limbs.
Heddle	Separates the warps for the weft insertion.

Hem	Material folded over with raw edge in and sewn down.
Jerky	Strips of dried meat.
Ketoh	Navajo bow guard.
Lacing Pins	Wooden pegs to hold the tipi together.
Lamintation	Strips of wood lashed together, bowed and put on ends of canoe.
Lance	Spear used for war or hunting.
Latigo	Heavy oil-soaked leather.
Lazy stitch	Loosely sewn bead technique.
Leggings	Pants without middle requiring a breechclout.
Leister	Fishing spear.
Lodge poles	Tall slender pine used for the tipi.
Loom	Frame for doing weaving or beadwork.
Mano	Hand-held stone used in connection with the metate.
Metal awl	Four-sided sharpened rod for punching holes.
Metate	Grinding stone.
Moccasins	Leather soft-sole shoes.
Nodule	Stone of flint, agate, obsidian, or slate for flaking.
Ozan	Inner roof of tipi.
Paddle	Used for rowing canoe.
Padre bead	Round, blue beads brought in by Spaniards.
Parfleche	Containers of rawhide for carrying and storage.
Paunch	Stomach of animal.
Pecking stone	Large or small slender stone used to chip other stones.
Pemmican	Dried meat, ground and mixed with suet.
Pin holes	For insertion of lacing pins on tipi.
Pipe bag	Pouch to hold pipe and tobbacco.
Pit dwelling	Indian lodge dug into earth covered with thatch and sod.
Pitch	Pine gum.
Pommel	Front upright portion of saddle.
Pottery	Baked clay vessels.

Quill smoother	Implement to flatten porcupine quills.
Quillwork	Decorative work done with porcupine quills.
Quiver	Container to carry arrows.
Rain pegs	Small, wooden pegs used to keep space between liner and poles.
Rawhide	Hide of an animal, fleshed and cleaned with or without hair.
Regalia bag	Rawhide container for bonnets.
Ribs	Used to hold in sheathing on canoe.
Root digger	Slender pointed stick for obtaining plant roots.
Saddle	A seat or pad on a horse to sit upon.
Saddle bags	A bag put over cantle to carry belongings.
Sandstone	Soft pourous stone with sandpaper-like surface.
Saplings	Very young trees with bendable trunks.
Scraper	Elk or wood-handled blade to scrape hair off hides.
Sheath	Knife or rifle cover.
Sheathing	Strips of flat cedar tappered on ends.
Sinew	Tendons of animals used for sewing and wrapping.
Smoke flap	Section on tipi that can be shifted with the wind to draw smoke.
Smoking hide	Waterproofing hide.
Snow snake	Game stick thrown on ice or frozen snow.
Spindle	Drill portion of friction sticks.
Stem	Small flat triangular wood on top of ends of canoe to hold end.
Stirrup	Part of saddle to put feet in.
Strike-a-lite	Container to hold flint and steel.
Tanning	Preparation and process for making buckskin.
Tassel	Strip of long material hanging from clothes or saddles.
Thatch	Woven saplings.
Tinder	Bark of cottonwood, cedar, or sage to catch spark in firebuilding.

Tipi	Portable dwelling of Plains Indian.
Trade beads	Beads used by both whites and Indians for barter.
Trade blanket	Blankets obtained from white traders.
Trade silver	Very thin metal brooches stamped and rouletted of German silver.
Traps	Ways to catch animal, fowl, and fish.
Travois	A shaped frame pulled by horse or dog to carry belongings.
Warp	Vertical threads on the loom.
Weft	Horizontal threads on a loom.
Welt	Strip of leather sewn between two other pieces for reinforcement.
Whip stitch	Sewing stitch wrapped around edge.
Wigwam	Indian lodge made of sapling covered with bark.
Willow back rest	A mat made of willows with a tripod to hold up back.
Wither	Top of shoulder of ahorse.

Annotated Bibliography of Selected Books

Abrams, Harry N. “The West of Buffalo Bill” (New York: Harry N. Abrams, Inc. Publishers), 289 pp. Contains three sections of Buffalo Bill Museum, Plains Indian Museum, and the Whitney Gallery of Western Art.

Adney, Edwin & Chapelle, Howard. “The Bark Canoes and Skin Boats of North America” (Washington, U.S. Government Printing Office, 1964), *Smithsonian Institute*, 242 pp. A very concise book of drawings and instructions on the building of canoes and kayaks.

Ahlbron, Richard E. “Man-Made Mobile—Early Saddles of Western North America” (Washington: Smithsonian Institution Press, 1980), 147 pp. Photographs and history of western saddlery of the Indian and the white men.

Appleton, Leroy H. “American Indian Design and Decoration” (New York: Dover Publications, 1971), 277 pp. 700 drawings with stories from various tribes.

Baldwin, Gordon C. “How Indians Really Lived” (New York: G. P. Putnam’s Sons, 1967), 233 pp. Contains black and white photographs and a good general survey of the history of the American Indian.

Belitz, Larry. "Brain Tanning the Sioux Way” (Hot Springs: 1979), 16 pp. Written for knowledgeable tanners, lacks some important steps.

Capps, Benjamin. “The Indians” (Alexandria: Time-Life Books, Inc.), 240 pp. Well-illustrated in-depth view of the lives and confrontations of the American Indians. Color photography.

Culin, Stewart. “Games of the North American Indians” (New York: Dover Publications Inc., 1975), 846 pp. The most comprehensive book on Indian games that is in print; very well researched, illustrated and written.

Densmore, Frances. “How Indians Use Wild Plants for Food, Medicine & Crafts” (New York: Dover Publications, Inc., 1974), 114 pp. A good technical book with charts of plant names and their uses.

Dockstader, Fredrick J. “Indian Art in America” (Greenwich: 1961). Illustrated works of Indian art and commentary.

Gilbert, E. W. “The Exploration of Western America 1800-1850” (New York: Cooper Publishers, 1966), 233 pp. An account of the Indians, Lewis and Clark and the fur trade of the Americans and British.

Grant, Bruce. “American Indians, Yesterday and Today” (New York: E. P. Dutton & Co., Inc., 1960), 352 pp. An encyclopedia of Indian names, customs, etc., with short explanations.

Grinnell, George Bird. “Blackfoot Lodge Tales” (Lincoln/London: University of Nebraska Press, 1962), 310 pp. Adventure, ancient times, social life, hunting and other stories which give an overview of the life of the Blackfoot Indian.

Hassrick, Royal B. “The George Catlin Book of American Indians” (New York: Promontory Press, 1981), 206 pp. Short introduction with captioned color plates of Catlin’s works as he traveled the West in the 1830s.

Hudson, Charles. “The Southeastern Indians” (Knoxville: University of Tennessee Press, 1978), 573 pp. Contains history, religion, social organization and crafts. There are few illustrations but it is well written and researched.

Hunt, W. Ben. “Indian Silver Smithing” (London: Collier MacMillan Pub., 1960), 160 pp. An elaborately illustrated book on how to do silver smithing.

Kennard, A. Edward. “Hopi Kachinas” (New York: Museum of the American Indians Heye Foundation, 1971), 120 pp. The history and role of Kachinas in Hopi life with color illustrations.

Ketchum, William C. “Western Memorabilia Collectables of the Old West” (Maplewood: Rutledge Book, Hammond Inc., 1980), 256 pp. Types and styles of collectable western items with a price guide. A good resource manual for collectors.

LaFarge, Oliver. “A Pictorial History of the American Indian” (New York: Crown Publishers, Inc., 1974), 288 pp. A good cross section of history and pictures of Indians then and now.

Lyford Carrie A. “Quill and Beadwork of the Western Sioux” (Boulder: Johnson Publishing Co., 1979), 116 pp. Illustrated techniques of quillwork and beadwork with patterns to use.

Lowie, R. H. “Indians of the Plains” (New York: McGraw-Hill, 1954). Written summary of life and travels of the Plains Indians.

Mails, Thomas E. “The Mystic Warriors of the Plains” (New York: Doubleday & Co., 1972), 618 pp. Well illustrated and written book on religion, social customs, clothing, etc., of the Plains Indians.

Mails, Thomas E. “The People Called Apache” (Englewood Cliffs: Prentice-Hall, Inc., 1974), 447 pp. Exceptional drawings and well-researched book on the life and history of the Apache.

Mason, Bernard S. “The Book of Indian Crafts and Costumes” (New York: The Ronald Press Co., 1946), 116 pp. Illustrated Indian Crafts.

Mason, Otis. “Aboriginal Skin-Dressing” (Seattle: The Shorey Book Store, 1971), 100 pp. The best historically documented book on Indian and Eskimo tanning tools and methods based on material in the U.S. National Museum. Illustrated.

Miles, Charles. “Indian & Eskimo Artifacts of North America” (New York: Bonanza Books, 1973), 243 pp. Numerous photographed artifacts of tools, weapons, travel, games, and musical instruments.

Murphy, Dan. “Lewis and Clark Voyage of Discovery” (Las Vegas: K. C. Publications, 1977), 64 pp. Color photography by famous David Muench shows a pictorial trip of Lewis and Clark as Dan Murphy takes excerpts from the journals and recreates the expedition.

Naylor, Mario. “Authentic Indian Designs” (New York: Dover Publications, Inc., 1975), 219 pp. 2500 drawings and photos from reports of the Bureau of American Ethonology on pottery, baskets, pouches, etc.

Salomon, Julian H. “The Book of Indian Crafts and Indian Lore” (New York: Harper & Row Publishers, 1928), 418 pp. Illustrated lightly with extensive body copy which is well written. A good selection of Indian names and meanings.

Scholz-Peters, Ruth. “Indian Bead Stringing and Weaving” (New York: Sterling Publishing, 1974), 63 pp. Basic illustrated book on beading.

Sides, Dorothy Smith. “Decorative Art of the Southwestern Indians” (New York: Dover Publications, 1961). 50 plates of illustrations of pottery and blanket designs.

Sorensen, Cloyd. "Glass Trade Beads” *Arizona Highways.* (Phoenix: July, 1971), 28 pp. Most pages in color; history and photographs of original trade beads.

Turner, Geoffrey. “Indians of North America” (Blandford Press Ltd., 1979), 261 pp. A good cross section of Indian history and living.’ Illustrated and sectioned by tribe.

Waldorf, D. C. “The Art of Flint Knapping” (Cassville: Litho Printers, 1979), 52 pp. Step-by-step illustrated instructions on various methods of making arrowheads and spear points.

White, George M. “Craft Manual of Northwest Indian Beading” (Ronan: 1972), 163 pp. Illustrated pages of techniques, patterns and designs of beadwork.

Whitford, Andrew H. “North American Indian Arts” (New York: Golden Press Publishing Inc., 1970), 160 pp. Small color drawings of crafts and explanations of each. Very good.

Wright, Barton. “Hopi Kachinas” (Flagstaff: Northland Press, 1977), 129 pp. Photographed guide to collecting Kachina dolls. It explains the names and functions of the dolls.